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SUPPLEMENTAL GLOBAL CLIMATIC DATA: JULY

C. Schutz, et al

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10. ABSTRACT

In this supplement to R-1029, the hemispheric distributions of sea-surface temperature, total cloud cover, planetary albedo, and outgoing longwave radiation for July are extended from hemispheric to global scope. All data are presented on a global grid of four degrees latitude and five degrees longitude. They are given both in tabulations and in the form of machine-drawn maps. The corresponding zonal and global averages are also given. These data are being used as a guide for evaluating climate simulations based on the Rand version of the Mintz-Arakawa general circulation model.

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Supplemental Global Climatic Data: July

C. Schutz and W. L. Gates

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PREFACE

An important part of the Rand/ARPA research program on the dynamics of climate is the evaluation of the accuracy of simulations of the global climate given by numerical solutions of models of the general atmospheric circulation. To perform this evaluation systematically requires a knowledge of the global distributions of the primary climatic variables of pressure, temperature, humidity, wind, and precipitation, together with the associated distributions of global radiation elements and hydrologic balances. Such data are not readily available, and even those that are obtainable are usually in a variety of forms and not immediately comparable to other climatic data.

The data presented in this report follow the pattern of previous reports (Schutz and Gates, 1971, 1972a, 1972b, and 1973c). In this July supplement, the *global* distribution of sea-surface temperature, total cloud-cover, planetary albedo, and outgoing longwave radiation data have been updated or added. Using the latest available data is in keeping with our objective of gathering in one place and in one format the most representative global climatologies of selected seasonal meteorological variables. Similar supplementary data for January are also in preparation (Schutz and Gates 1973). Except for the southern hemisphere cloud-cover, which was available only for January and July, these data have already been included in the publications for April and October (Schutz and Gates, 1973b, 1974).

SUMMARY

These supplemental *global* distributions of sea-surface temperature total cloud-cover, planetary albedo, and outgoing longwave radiation for July are presented as an update or addition to July data previously published (Schutz and Gates, 1972b). All data are presented on a global grid of 4° latitude and 5° longitude, both in the form of tabulated values and machine-analyzed maps. The corresponding zonal and global averages are also given. These data are being used at Rand as a guide for evaluating climate simulations based on the Rand version of the Mintz-Arakawa general circulation model.

ACKNOWLEDGMENTS

Sincere appreciation is extended to several Rand colleagues for their valuable assistance: R. C. Alexander for his efforts in developing the data on sea-surface temperature and ice limits at high latitudes; L. D. Bregman for completing the arduous task of extracting the basic grid-point data from the varied global climatic charts; and R. L. Mobley and A. B. Nelson for reducing these data to the desired format and supervising the machine tabulations.

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I. INTRODUCTION

The supplementary July data presented here for the sea-surface temperature, the conventionally observed mean total cloud cover over the southern hemisphere, the planetary albedo, and the outgoing long-wave radiation, represent refinements and additions to data presented in Schutz and Gates (1972b). They are the results of a continuing effort to use the best climatologies available in evaluating climate simulation experiments based on numerical general circulation models, the Mintz-Arakawa model in particular. The new July data appearing in this report are listed in Table 1.1.

Section II discusses the selection and the processing of the data. Section III presents a global analysis of each variable selected. The corresponding distribution of the zonal averages and the global average value are given in Section IV, and Section V gives tabulations of the associated grid-point data. The asterisk (*) in the grid-point data tabulations (Section V) denotes missing data. These regions correspond to the blank or "no data" areas on the analyzed maps and zonal averages of Sections III and IV. In the sea-surface temperature data in Sections III and V, the letter "I" marks the locations of sea ice.

Table 1.1

IDENTIFICATION OF SELECTED CLIMATIC VARIABLES--JULY

Data (or) Variable	Unit	Source	Max Record Period	Pages[a]
Temperature (sea-surface)	Deg. C	Alexander & Mobley	Various	9, 15, 21
Cloudiness (global)	Tenths	Environmental Technical Applications Center (1971)	1963-1968	
		Van Loon et al. (1972)	Various	10, 16, 25
Albedo (planetary)	Fractions	Vonder Haar (1972)	1963-1966 and 1969	11, 17, 29
Outgoing Longwave Radiation	10^2 ly day^{-1}	Vonder Haar (1972)	1963-1966 and 1969	12, 18, 33

[a]The numbers in each of these columns are the page numbers (in this report) of the global map analyses, the zonally averaged data, and the global data tabulations respectively.

II. DATA SELECTION AND PROCESSING

This section briefly describes the processing or manipulation of each primary source of the mean data listed in Table 1.1. After a careful review of all known sources of pertinent data, we selected the sources used here as representing the best collection of "global" data presently available, best, at least, for the purpose of comparison with the model's global simulations. The observational content, the special processing, and the limitations of these data (including various record lengths) are discussed further in the data publications themselves. Although the present discussion refers primarily to the data of Figs. 3.1 through 3.4, it also applies to the corresponding zonally averaged data of Figs. 4.1 through 4.4, as well as to the supporting grid-point data presented in Tables 5.1 through 5.4.

SEA-SURFACE TEMPERATURE

Figure 3.1 shows the global distribution of average July sea-surface temperatures. The distribution is a composite prepared by Alexander and Mobley* from the July normals obtained from the National Center for Atmospheric Research (Washington and Thiel, 1970) and from the Fleet Numerical Weather Central in Monterey (northern hemisphere only). The grid elements containing more than 50 percent of sea ice are denoted by "I" in Fig. 3.1. This convention introduces a bias toward more severe ice conditions. (For example, if only 60 percent of a given area is ice-covered and if the concentration is 60-percent, then only 36 percent of the total area is covered by ice.) This practice may partly compensate for the usual bias in the observations toward calm, warm weather and ice-free conditions when the observing ships operate. These data on the 4°-latitude, 5°-longitude grid were taken from the appropriate points (without smoothing) of the global 1° tabulation being prepared by Alexander and Mobley. These authors also give details on interpolation, merging of data sets, and treatment of ice limits.

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*"Updated Global Monthly Mean Ocean Surface Temperatures," unpublished report.

CLOUDINESS

The distribution of total cloud cover shown in Figure 3.2 was developed for the northern hemisphere separately from the southern hemisphere. The northern portion appeared in the original July report (Schutz and Gates 1972b); it was constructed from the digitized representation of both satellite and conventional observations compiled by the Global Weather Central (GWC) for the Environmental Technical Applications Center (1971). These data were collected at 0000Z and 1200Z and were compiled for this presentation in terms of the total cloud cover, C, from the formula

$$C = \sum_{N=0}^{8} \frac{C_{00,N} + C_{12,N}}{2} \frac{N}{8} ,$$

where $C_{00,N}$ and $C_{12,N}$ are the percentages of the 00Z and 12Z observations that have N-eighths cloud cover. These digitized cloud data appear on the GWC grid. This is a square grid with octagonal boundaries superimposed on a polar stereographic projection, with a southern boundary at approximately 15°N. Equations from Murray (1962) were used to transform the latitude and longitude of each of the 46 x 72 points of the present grid to the coordinates in the GWC grid, followed by a bilinear interpolation using the four nearest GWC grid values.

Since the northern-hemisphere data of Figure 3.2 contain all modern cloud observations, during both day and night hours, they are considered the best available representation of northern-hemisphere total cloud cover. To obtain global coverage, however, the climatological composite of total cloudiness for the southern hemisphere in July from van Loon, et al (1972) was added. It is a subjective fusion of the total cloudiness as discussed by Brooks (1927), Landsberg (1945), Vowinckel and van Loon (1957), Clapp (1964), and Sadler (1969). It is shown in the marine climatological atlases of Germany, the Netherlands, United Kingdom, and the United States. Since it shows many of the better known features of the total cloud cover, such as the zones

of high mean cloudiness over the eastern parts of the oceans in the tropics, it is assumed to be a reasonably good picture of the total cloudiness.

PLANETARY ALBEDO

The June-July-August mean planetary (world) albedo values shown in Figure 3.3 were summarized from satellite data of the periods including June-July-August 1963, July 1964, June-July-August 1965, July 1966, and July 16-31, 1969. These data, the most up-to-date available, were reduced at Colorado State University into seasonal global maps as discussed by Vonder Haar (1972). They were transcribed directly onto the 4° by 5° grid for this report.

OUTGOING LONGWAVE RADIATION

The June-July-August outgoing longwave radiation data shown in Fig. 3.4 were also interpolated directly onto the 4° by 5° grid from the data of Vonder Haar (1972). These measurements cover the same periods as do the planetary albedo data.

III. GLOBAL CLIMATIC ANALYSES

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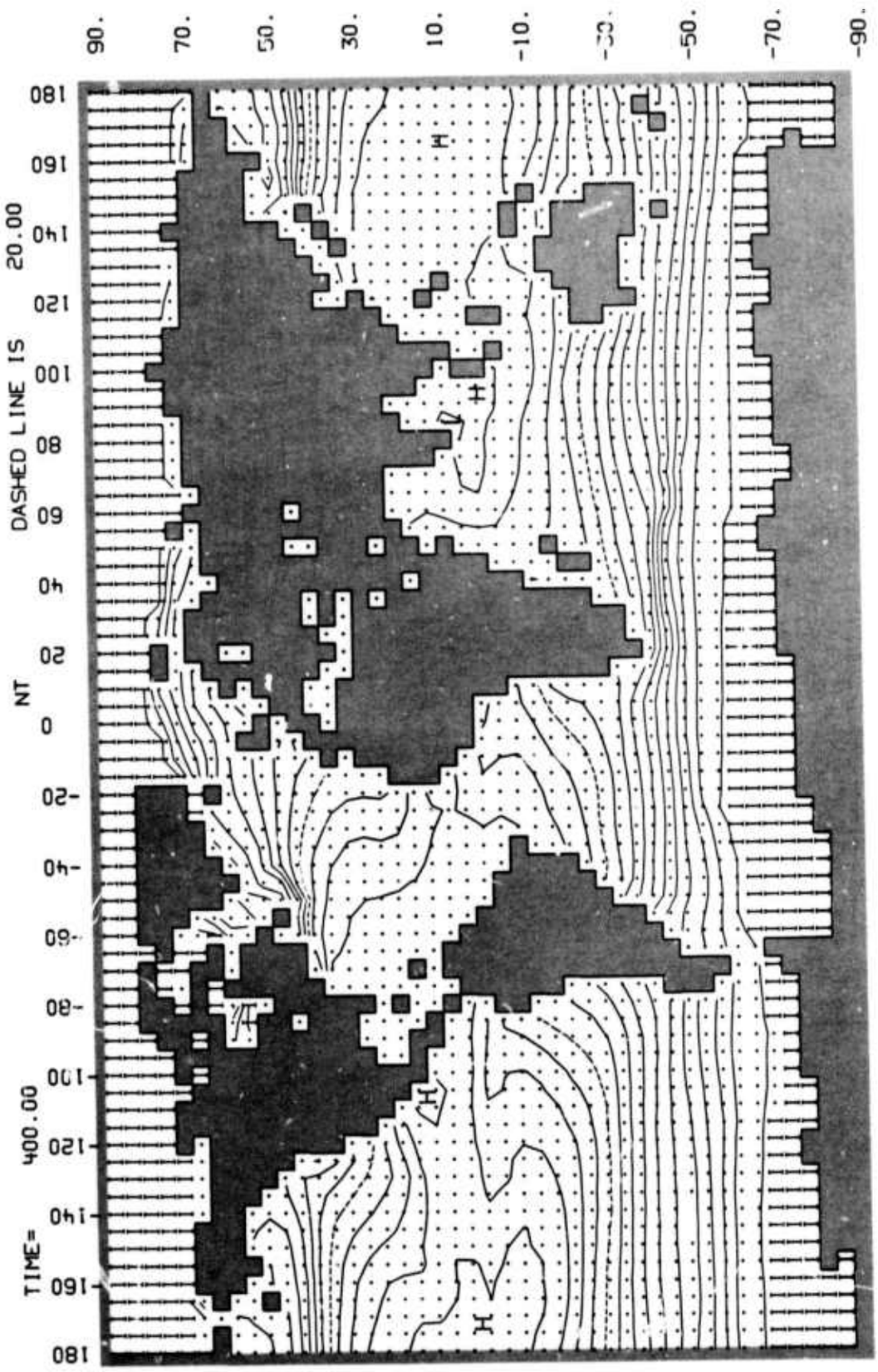

Fig. 3.1— July mean sea-surface temperature in deg. C. The analysis interval is 2 deg. and the 20 deg. C isotherm is dashed. "I" denotes grid elements with sea ice. Interpolated from a composite of normals formed in Alexander and Mobley (1973)

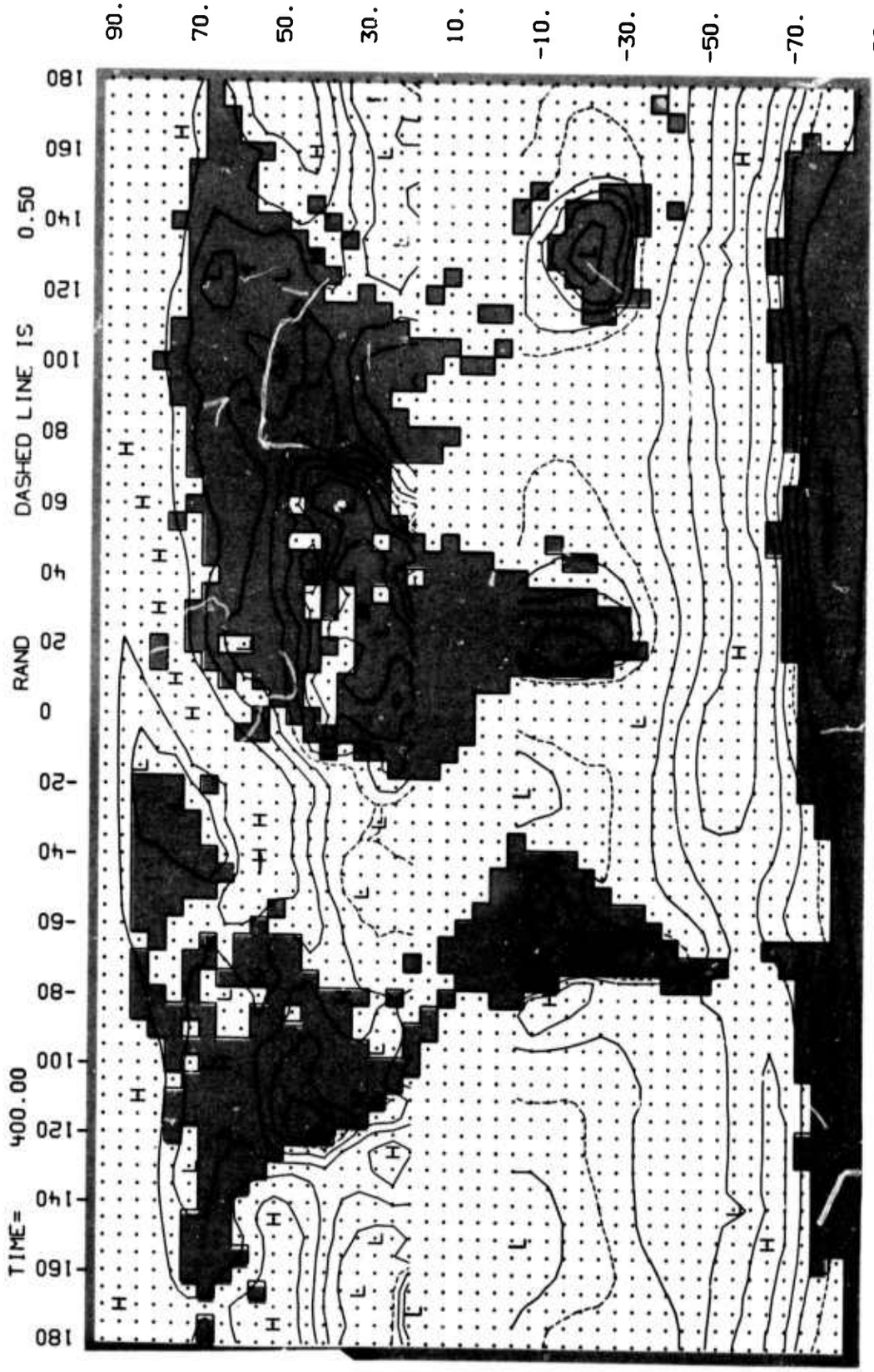

Fig. 3.2— July mean total cloud cover in tenths of the sky covered. The analysis interval is 0.1, and the 0.5 isoline is dashed. Prepared with data from the Environmental Technical Applications Center (1971) (northern hemisphere) and from Van Loon, et al (1972) (southern hemisphere)

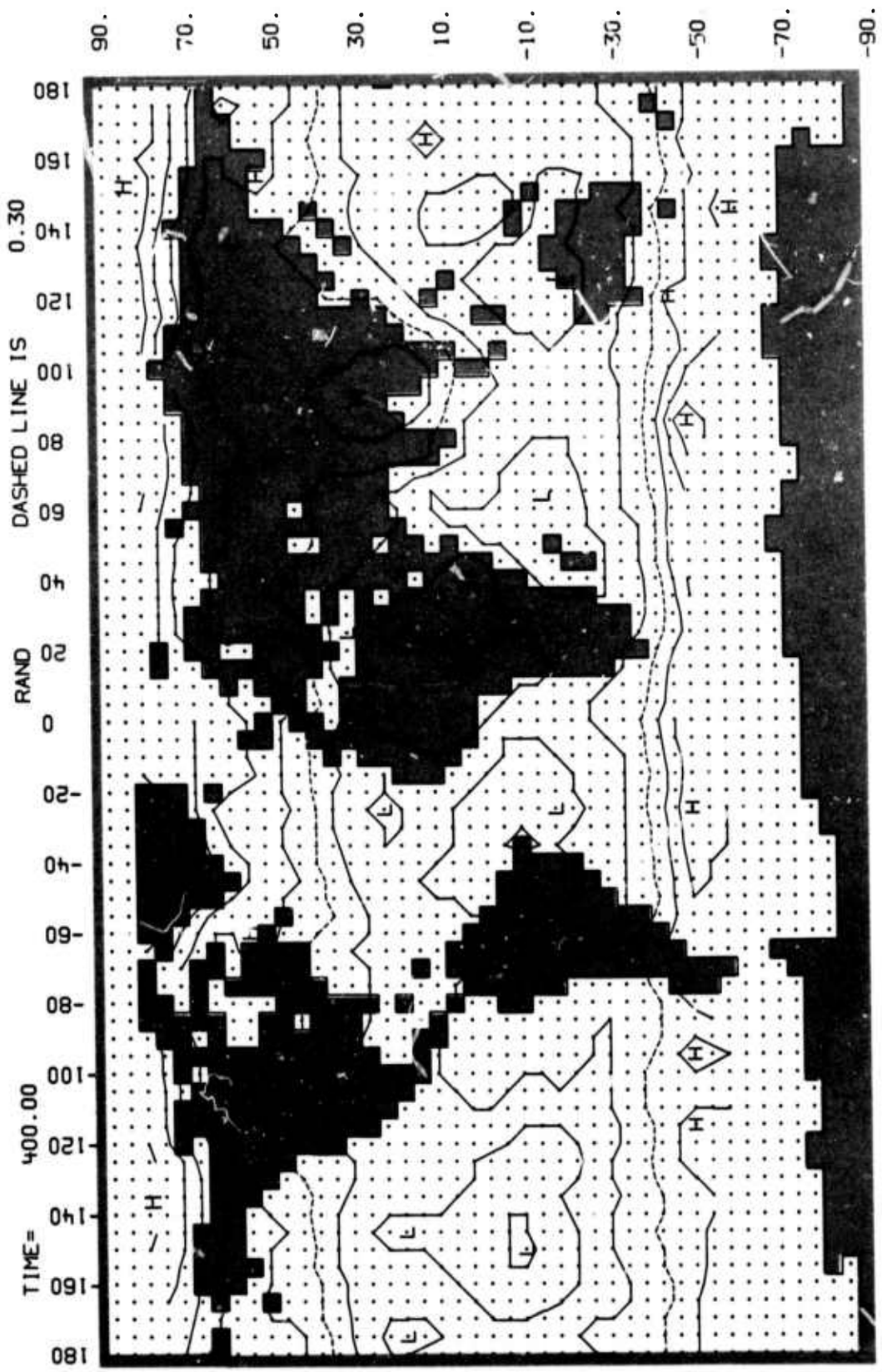

Fig. 3.3 — June-July-August mean planetary (world) albedo (fractions). The analysis interval is 0.05, and the 0.3 isoline is dashed. Data are from Vonder Haar (1972)

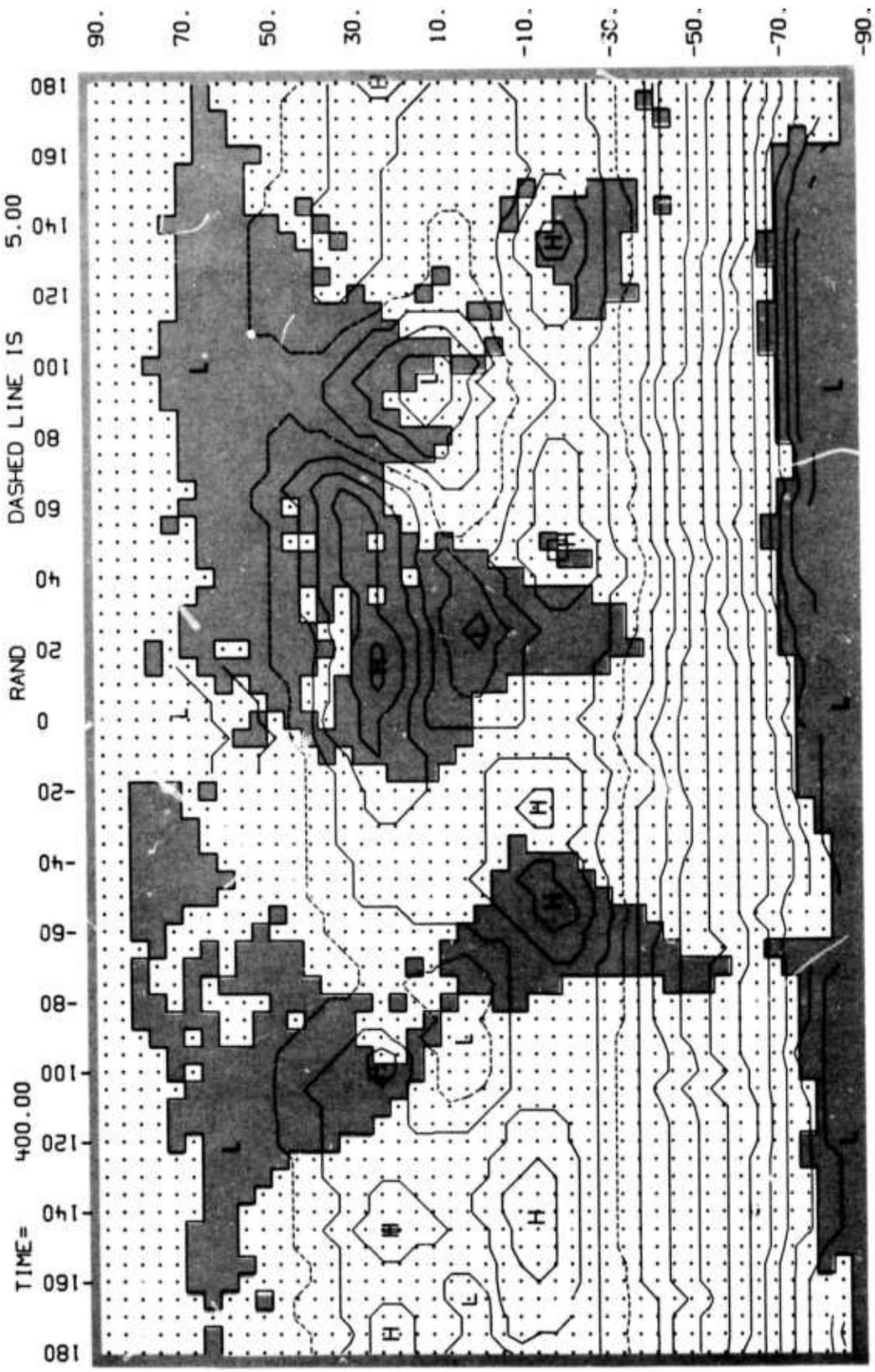

Fig. 3.4— June-July-August mean outgoing longwave radiation, in 10^2 ly/day. The analysis interval is 25 ly/day, and the 500 ly/day is dashed. Data are from Vonder Haar (1972)

IV. ZONALLY AVERAGED DATA

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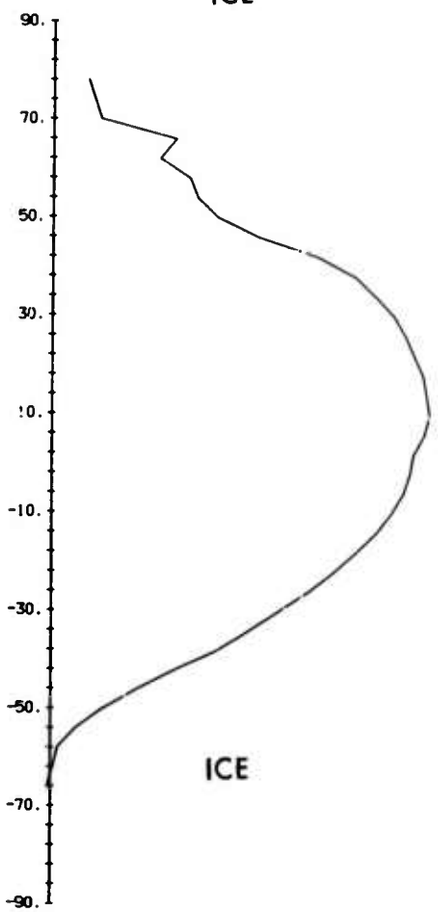
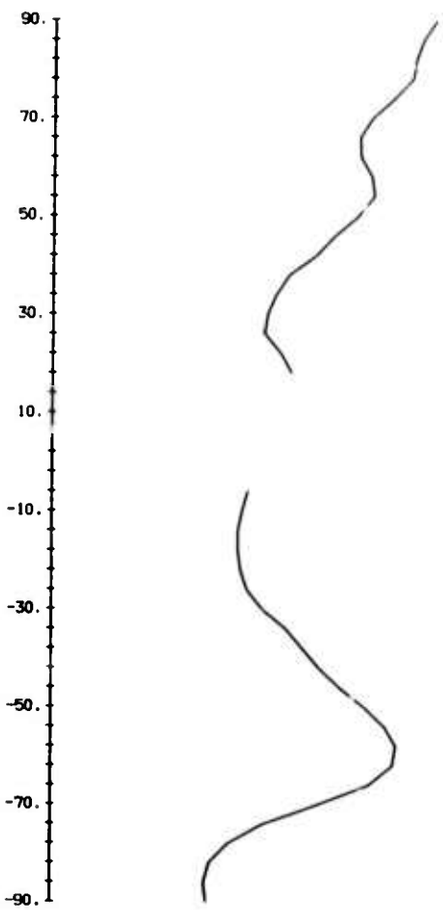


GLOBAL MEAN= 18.725

LAT	ZONAL MEAN
90.	
86.	
82.	
78.	2.585
74.	3.065
70.	3.525
66.	9.059
62.	7.876
58.	10.134
54.	10.689
50.	12.178
46.	15.264
42.	19.789
38.	22.562
34.	24.044
30.	25.387
26.	26.230
22.	26.847
18.	27.492
14.	27.748
10.	27.956
6.	27.604
2.	26.830
-2.	26.573
-6.	26.086
-10.	25.226
-14.	24.132
-18.	22.595
-22.	20.965
-26.	19.141
-30.	16.896
-34.	14.635
-38.	12.264
-42.	9.128
-46.	6.343
-50.	3.853
-54.	1.872
-58.	0.541
-62.	0.177
-66.	-0.229
-70.	
-74.	
-78.	
-82.	
-86.	
-90.	

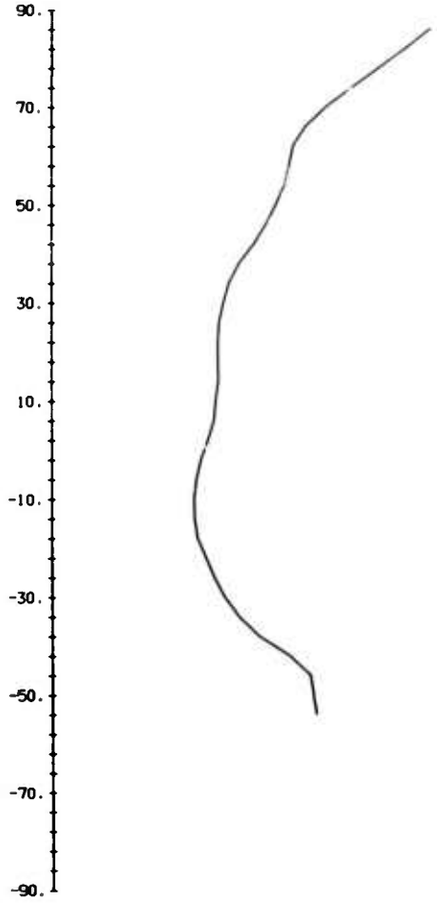
Fig. 4.1 — July zonally averaged mean sea-surface temperature in deg. C, as found from the data of Fig. 3.1



GLOBAL MEAN= 0.571

LAT	ZONAL MEAN
90.	0.867
86.	0.839
82.	0.823
78.	0.817
74.	0.775
70.	0.727
66.	0.700
62.	0.701
58.	0.727
54.	0.733
50.	0.697
46.	0.644
42.	0.602
38.	0.540
34.	0.511
30.	0.492
26.	0.486
[illegible]	0.522
18.	0.546
14.	
10.	
6.	
2.	
-2.	
-6.	0.450
-10.	0.437
-14.	0.427
-18.	0.427
-22.	0.433
-26.	0.449
-30.	0.484
-34.	0.538
-38.	0.576
-42.	0.614
-46.	0.661
-50.	0.717
-54.	0.763
-58.	0.788
-62.	0.781
-66.	0.728
-70.	0.611
-74.	0.488
-78.	0.408
-82.	0.366
-86.	0.354
-90.	0.360

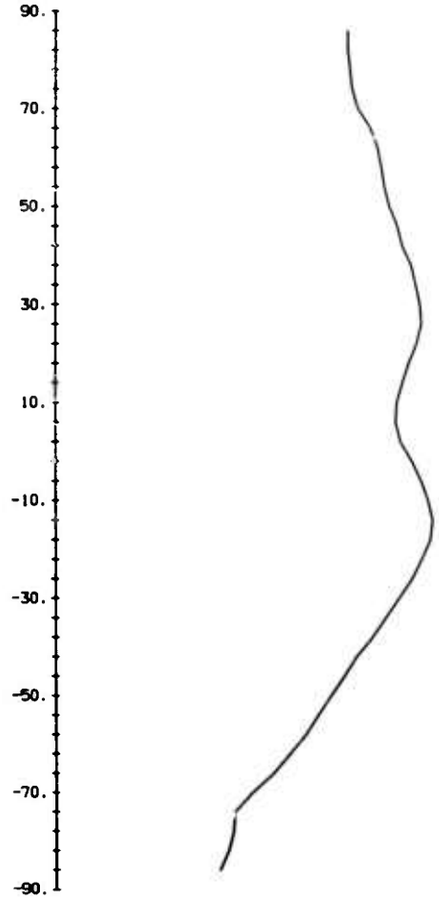
Fig. 4.2— July zonally averaged mean total cloud cover in tenths of sky covered, as found from the data of Fig. 3.2



GLOBAL MEAN= 0.274

LAT	ZONAL MEAN
90.	
86.	0.560
82.	0.524
78.	0.485
74.	0.446
70.	0.407
66.	0.376
62.	0.357
58.	0.351
54.	0.344
50.	0.331
46.	0.317
42.	0.299
38.	0.277
34.	0.261
30.	0.253
26.	0.246
22.	0.244
18.	0.244
14.	0.245
10.	0.241
6.	0.238
2.	0.229
-2.	0.218
-6.	0.212
-10.	0.208
-14.	0.209
-18.	0.214
-22.	0.226
-26.	0.238
-30.	0.254
-34.	0.276
-38.	0.306
-42.	0.351
-46.	0.381
-50.	0.386
-54.	0.391
-58.	
-62.	
-66.	
-70.	
-74.	
-78.	
-82.	
-86.	
-90.	

Fig. 4.3— June-July-August zonally averaged mean planetary albedo, in fractions, as found from the data of Fig. 3.3



GLOBAL MEAN= 4.926

LAT	ZONAL MEAN
90.	
86.	4.320
82.	4.320
78.	4.356
74.	4.382
70.	4.464
66.	4.644
62.	4.748
58.	4.808
54.	4.852
50.	4.920
46.	5.040
42.	5.112
38.	5.246
34.	5.314
30.	5.374
26.	5.392
22.	5.320
18.	5.208
14.	5.110
10.	5.026
6.	5.010
2.	5.086
-2.	5.256
-6.	5.392
-10.	5.496
-14.	5.560
-18.	5.528
-22.	5.400
-26.	5.256
-30.	5.060
-34.	4.864
-38.	4.672
-42.	4.438
-46.	4.264
-50.	4.084
-54.	3.900
-58.	3.718
-62.	3.482
-66.	3.238
-70.	2.916
-74.	2.648
-78.	2.630
-82.	2.558
-86.	2.437
-90.	

Fig. 4.4— June-July-August zonally averaged mean outgoing longwave radiation, in 10^2 ly/day, as found from the data of Fig. 3.4

V. GLOBAL DATA TABULATIONS

TABLE 5-1 JUL SEA SURFACE TEMPERATURE (DEG C)

	180W	175W	170W	165W	160W	155W	150W	145W	140W	135W	130W	125W	120W	115W	110W	105W	100W	95W
90N	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
86N	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
82N	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
78N	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
74N	I	I	I	I	I	I	I	I	I	I	I	I	**********	**********	**********	I	**********	**********
70N	I	-0.7	-0.2	3.2**********	**********	**********	**********	**********	-1.9	-1.9	-1.9	-1.9	-1.9**********	**********	**********	**********	I	*******
66N	**********	**********	7.7**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
62N	7.2	7.0	7.8	9.3**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
58N	7.6	7.8	8.1	9.5	10.4*******	**********	11.7	12.2	12.8**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
54N	7.8	8.1	8.8********	9.9	10.0	10.7	11.3	12.3	12.9**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
50N	9.3	9.6	9.8	10.2	10.8	10.9	11.4	12.1	12.8	13.7	14.2**********	**********	**********	**********	**********	**********	**********	**********
46N	11.7	12.9	13.0	13.0	13.2	13.8	14.0	14.3	14.9	15.6	15.9	14.2**********	**********	**********	**********	**********	**********	**********
42N	17.9	18.0	17.9	18.2	18.3	18.4	18.2	18.2	17.9	17.5	16.5	13.9**********	**********	**********	**********	**********	**********	**********
38N	22.3	22.0	21.9	21.7	21.5	21.4	21.0	20.5	19.7	18.9	17.5	15.6**********	**********	**********	**********	**********	**********	**********
34N	24.8	24.6	24.1	24.0	23.8	23.3	22.5	21.8	21.0	20.0	19.0	17.8	18.3**********	**********	**********	**********	**********	**********
30N	26.5	26.0	25.7	25.4	25.1	24.4	23.6	22.6	21.9	21.1	20.4	19.7	19.3**********	**********	**********	**********	**********	**********
26N	27.4	27.1	26.8	26.4	26.0	25.2	24.4	23.5	22.8	22.2	21.5	21.7	22.3	22.6**********	**********	**********	**********	28.6
22N	28.0	27..	27.5	27.0	26.5	25.4	25.0	24.5	24.0	23.5	23.1	23.8	24.8	25.6	27.4**********	**********	**********	28.4
18N	28.3	28.2	27.9	27.2	26.5	25.7	25.9	25.7	25.5	25.5	25.6	26.2	26.8	27.5	28.2	29.0**********	**********	**********
14N	28.4	28.4	27.8	27.4	27.2	27.2	27.0	26.9	27.0	27.0	27.2	27.7	27.9	28.0	28.2	28.6	27.8	27.5
10N	28.9	28.9	28.3	28.0	28.0	28.1	27.9	27.9	27.8	27.8	27.8	27.8	27.7	27.4	27.4	27.6	27.4	27.1
6N	29.1	28.8	28.4	28.2	28.1	28.1	27.8	27.3	27.1	26.9	26.8	26.5	26.3	26.3	26.1	26.2	26.4	26.3
2N	29.1	28.8	28.4	28.0	28.0	27.9	27.5	26.7	26.5	25.8	25.4	25.4	24.8	24.4	24.3	23.6	23.5	23.8
2S	29.0	28.7	28.5	28.5	28.2	28.1	28.0	27.6	27.1	26.5	25.8	25.7	25.3	24.7	24.6	24.1	24.0	23.3
6S	28.3	28.4	28.5	28.5	28.2	28.1	28.1	28.1	27.4	27.1	26.9	26.5	25.9	25.2	25.1	24.5	24.1	23.4
10S	27.3	27.6	28.0	28.1	28.0	28.0	27.8	27.6	27.2	27.1	27.0	26.3	25.7	25.1	24.9	24.2	23.8	22.7
14S	25.9	26.4	26.7	27.0	27.1	27.1	27.0	26.8	26.5	26.2	25.7	25.4	24.9	24.5	24.1	23.5	22.8	21.5
18S	23.8	24.2	24.7	24.9	25.0	25.0	25.0	24.9	25.0	24.8	24.6	24.4	24.1	23.6	23.1	22.4	21.5	20.6
22S	21.5	21.6	21.8	21.9	22.1	22.3	22.5	22.5	22.6	22.6	22.8	22.8	22.6	22.1	21.8	21.1	20.5	19.8
26S	19.1	19.2	19.3	19.3	19.4	19.5	19.8	20.0	20.5	20.4	20.4	20.3	20.1	19.9	19.9	19.5	19.1	18.6
30S	16.8	16.7	16.8	16.8	16.8	17.0	17.0	17.1	17.0	17.0	17.1	17.0	17.2	17.0	16.9	16.9	16.8	16.7
34S	14.7	14.6	14.4	14.3	14.2	14.2	14.2	14.3	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.5	14.5	14.4
38S	12.5	12.5	12.4	12.1	12.0	12.0	12.0	12.1	12.0	12.0	12.0	11.9	11.8	11.7	11.9	11.9	12.0	12.2
42S	10.4	10.5	10.3	10.3	10.2	10.2	10.1	10.1	10.1	10.1	10.0	9.9	9.8	9.6	9.5	9.5	9.4	9.5
46S	8.3	8.5	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.6	8.5	8.2	8.0	7.8	7.5	7.2	7.1
50S	6.5	6.6	6.7	6.8	6.7	6.6	6.5	6.4	6.4	6.3	6.2	6.1	6.0	5.9	5.6	5.5	5.3	5.1
54S	3.9	3.8	3.8	3.8	3.7	3.9	3.7	3.8	3.7	3.6	3.7	3.8	3.9	3.9	3.7	3.6	3.3	3.1
58S	0.9	0.9	0.9	0.9	0.9	0.9	1.0	0.9	0.8	0.7	0.9	1.0	1.1	1.3	1.2	1.1	1.0	0.9
62S	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3
66S	I	I	I	I	I	I	I	I	I	I	I	I	I	I	-0.3	-0.2	-0.2	-0.2
70S	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
74S	I	I	I	I	I	I	I	I	I	I	I	**********	I	I	I	I	**********	**********
78S	I	I	I	I	I	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
82S	I	I	I	I	I	I	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
86S	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
90S	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

TABLE 5-1 JUL SEA SURFACE TEMPERATURE (DEG C)

	90W	85W	80W	75W	70W	65W	60W	55W	50W	45W	40W	35W	30W	25W	20W	15W	10W	5W
90N	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
86N	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
82N	I	**********	**********	**********	**********	I	**********	**********	**********	**********	**********	**********	**********	**********	**********	I	I	I
78N	**********	**********	**********	I	I	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	I	I	I
74N	**********	**********	I	-1.9	I	I	-1.6	**********	**********	**********	**********	**********	**********	**********	**********	I	2.9	3.9
70N	I	**********	**********	**********	**********	I	-0.7	1.3	**********	**********	**********	**********	**********	I	1	4.8	5.7	7.2
66N	**********	**********	I	I	**********	**********	I	3.4	**********	**********	**********	7.1	9.1	10.0	*******	9.3	9.1	9.5
62N	2.2	3.0	6.6	*******	-0.3	0.3	2.9	5.4	5.0	*******	7.0	9.1	10.3	11.0	11.6	11.9	11.9	12.0
58N	0.6	I	I	**********	**********	**********	3.1	4.8	7.6	8.5	9.4	10.4	11.5	12.3	13.0	13.3	13.3	*******
54N	**********	**********	8.9	**********	**********	**********	**********	7.4	7.3	11.0	12.3	12.6	13.6	14.2	14.5	14.8	15.0	*******
50N	**********	**********	**********	**********	**********	**********	12.2	*******	9.1	11.4	15.8	16.5	16.5	16.5	16.4	16.5	16.4	15.7
46N	*******	17.0	**********	**********	**********	**********	15.3	16.1	14.4	18.8	19.6	19.6	19.3	18.8	18.4	18.0	17.6	18.5
42N	*******	**********	**********	**********	19.8	22.0	23.1	23.0	22.3	22.6	22.5	21.8	21.3	20.6	19.9	19.2	18.2	*******
38N	**********	**********	**********	26.1	26.3	25.7	25.4	25.0	24.7	24.4	23.9	23.3	22.6	21.8	21.0	20.3	**********	**********
34N	**********	**********	**********	27.4	26.6	26.4	26.1	25.9	25.7	25.2	24.7	24.2	23.5	22.6	21.6	21.0	21.0	*******
30N	28.8	28.4	*******	27.6	27.1	26.9	26.8	26.6	26.0	25.4	24.9	24.5	23.6	22.8	21.8	20.9	**********	**********
26N	28.8	28.8	28.3	27.9	27.3	27.1	27.1	26.7	26.1	25.5	24.9	24.2	23.6	22.9	21.6	20.0	**********	**********
22N	28.4	28.4	*******	27.9	27.3	27.3	27.1	26.7	26.1	25.8	25.0	24.2	23.9	23.3	22.5	**********	**********	**********
18N	*******	28.1	27.9	27.4	*******	27.6	27.3	26.8	26.2	26.1	25.5	25.0	24.7	24.6	25.0	**********	**********	**********
14N	**********	**********	27.7	26.7	26.5	26.7	27.5	27.3	26.8	26.7	26.5	26.2	25.9	25.8	26.5	**********	**********	**********
10N	27.1	27.2	*******	27.8	**********	**********	27.3	27.8	27.7	27.8	27.1	26.9	26.6	26.1	26.4	26.4	**********	**********
6N	26.2	26.3	26.6	**********	**********	**********	27.9	27.8	27.4	27.2	26.9	26.5	25.8	25.6	25.4	25.4	*******	**********
2N	24.0	24.1	24.7	**********	**********	**********	**********	27.9	27.3	27.0	26.5	26.0	25.5	24.5	24.0	23.6	23.6	**********
2S	22.5	21.7	**********	**********	**********	**********	**********	**********	**********	26.6	26.4	26.2	25.9	25.4	24.9	23.9	23.1	**********
6S	22.2	20.8	**********	**********	**********	**********	**********	**********	**********	**********	**********	26.0	25.8	25.3	25.0	24.1	23.3	**********
10S	21.2	20.1	18.7	**********	**********	**********	**********	**********	**********	**********	**********	25.3	25.3	24.8	24.5	23.9	23.2	22.5
14S	20.4	19.5	18.3	**********	**********	**********	**********	**********	**********	**********	**********	24.7	24.3	23.7	23.2	22.6	22.1	21.3
18S	19.8	19.0	18.0	17.1	**********	**********	**********	**********	**********	**********	**********	23.7	23.2	22.7	22.4	22.0	21.2	20.4
22S	19.2	18.3	17.4	16.5	**********	**********	**********	**********	**********	**********	22.5	22.2	21.8	21.7	21.4	20.9	20.2	19.4
26S	18.0	17.3	16.5	15.6	**********	**********	**********	**********	**********	20.1	20.5	19.8	19.5	19.3	19.4	19.0	18.6	17.9
30S	16.4	15.8	14.9	14.0	**********	**********	**********	**********	16.5	18.3	17.9	17.6	17.3	17.3	17.2	17.1	16.6	16.6
34S	14.4	13.8	13.2	12.6	**********	**********	**********	**********	14.4	15.1	15.4	15.5	15.3	15.2	15.0	14.6	14.3	13.8
38S	12.0	12.0	11.6	11	**********	**********	**********	9.5	11.5	11.9	11.9	12.1	12.2	12.3	11.9	11.9	11.5	11.1
42S	9.6	9.6	9.7	**********	**********	**********	7.1	7.3	8.7	8.9	9.0	9.1	9.1	9.0	8.9	8.5	8.2	7.8
46S	7.0	7.0	7.2	**********	**********	6.1	5.4	5.5	6.2	6.3	6.2	5.8	5.6	5.3	5.1	4.8	4.6	4.1
50S	5.0	5.0	5.0	**********	**********	4.0	3.7	4.0	4.5	4.5	4.3	3.8	3.2	2.2	1.4	1.3	1.3	1.2
54S	3.1	3.3	3.5	3.6	*******	2.5	2.1	2.1	2.2	2.0	1.6	1.1	0.5	-0.0	0.1	0.1	0.1	0.1
58S	0.9	0.9	1.0	1.1	1.0	0.6	0.3	-0.0	-0.0	-0.0	-0.0	I	I	I	I	I	I	I
62S	0.3	0.3	0.3	0.2	0.1	-0.0	I	I	I	I	I	I	I	I	I	I	I	I
66S	-0.2	I	I	I	I	*******	I	I	I	I	I	I	I	I	I	I	I	I
70S	I	I	I	I	**********	**********	I	I	I	I	I	I	I	I	I	I	I	I
74S	**********	**********	**********	**********	**********	**********	I	I	I	I	I	I	I	I	**********	**********	**********	**********
78S	**********	**********	**********	**********	**********	**********	I	I	I	I	I	I	**********	**********	**********	**********	**********	**********
82S	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
86S	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
90S	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

TABLE 5-1 JUL SEA SURFACE TEMPERATURE (DEG C)

	0E	5E	10E	15E	20E	25E	30E	35E	40E	45E	50E	55E	60E	65E	70E	75E	80E	85E
90N	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
86N	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
82N	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
78N	1.4	3.0	4.6			2.2	1.6	I	I	I	I	I	I	I	I	I	I	I
74N	5.3	6.4	7.1	7.1	7.0	6.7	6.3	5.8	5.0	4.0	2.8		I	I	0.7	0.7	0.6	0.7
70N	8.7	9.9	10.3	10.5				7.6	6.9	6.3	5.7	5.0		4.0				
66N	10.7	11.8	12.3						8.6									
62N	12.4	13.5			14.0													
58N	13.4	14.8	16.6		15.6													
54N		16.3																
50N	17.0																	
46N											19.4		17.7					
42N		23.1	23.1			23.2	24.6				22.3							
38N	22.9	23.2	23.9	24.4		23.0												
34N				24.8	24.8	24.7	25.3	27.0										
30N																		
26N							29.7				29.4							
22N													26.2	26.6	27.7			
18N									30.0			26.0	26.1	26.6	27.3			28.6
14N											26.9	25.3	26.1	26.8	27.3			28.4
10N												25.2	26.6	27.2	27.4	27.5		27.8
6N											24.8	25.8	27.2	27.9	28.1	28.3	28.0	28.0
2N	24.3	24.9									25.3	26.0	27.1	28.0	28.3	28.3	28.2	28.1
2S	22.7	22.5								24.7	25.5	25.9	26.4	27.0	27.4	27.7	27.7	27.9
6S	22.8	22.3	22.1							24.7	25.0	25.4	26.7	26.0	26.4	26.5	26.5	26.7
10S	21.9	21.1	20.6						24.0	24.5	24.5	24.6	24.9	25.1	25.2	25.3	25.3	25.4
14S	20.5	19.5	17.8						24.1	24.2		24.0	24.1	24.1	24.1	24.1	24.0	24.1
18S	19.4	18.5	16.6						23.8		23.4	23.2	23.2	23.0	22.9	22.7	22.4	22.4
22S	18.5	17.9	16.8						22.6		22.5	22.1	21.8	21.5	21.2	20.8	20.3	20.1
26S	17.6	17.2	16.8					21.4	21.2	20.9	20.5	20.1	19.7	19.1	18.7	18.3	18.2	17.9
30S	16.2	16.1	16.2	16.9				20.0	19.4	18.7	18.1	17.7	17.5	17.1	16.4	15.9	15.5	15.3
34S	13.4	13.4	14.4	15.5		17.7	17.9	17.4	17.0	16.5	16.2	15.8	15.2	14.7	14.2	13.7	13.3	13.1
38S	10.9	10.7	11.5	13.1	15.4	15.2	14.6	14.6	14.2	13.8	13.8	14.2	13.8	13.3	12.7	12.1	11.7	11.3
42S	7.8	7.6	7.8	8.7	9.7	9.4	8.3	7.2	6.8	6.3	6.4	7.0	9.5	9.7	8.6	9.3	8.9	8.7
46S	4.1	4.1	4.2	4.1	4.3	4.1	4.0	3.7	3.3	3.1	3.2	3.4	3.9	3.9	3.9	4.3	5.0	5.4
50S	1.1	1.2	1.2	1.3	1.2	1.3	1.2	1.2	1.2	1.2	1.3	1.4	1.5	1.6	1.7	2.0	2.2	2.2
54S	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.5	0.4	0.5
58S	I	I	I	I	I	I	I	I	I	I	I	I	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
62S	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
66S	I	I	I	I	I	I	I	I	I	I			I	I	I	I	I	I
70S	I	I	I	I										I	I			
74S																		
78S																		
82S																		
86S																		
90S																		

TABLE 5-1 JUL SEA SURFACE TEMPERATURE (DEG C)

	90E	95E	100E	105E	110E	115E	120E	125E	130E	135E	140E	145E	150E	155E	160E	165E	170E	175E
90N	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
86N	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
82N	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
78N	I	I	*******	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
74N	**********	**********	**********	**********	**********	0.6	0.3	0.0	-0.1	I	*******	I	I	I	I	I	I	I
70N	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	3.0	2.7	2.3	1.3
66N	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
62N	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	8.2
58N	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	9.6	7.9	7.7
54N	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	8.7	8.7	9.4*******	*******	7.4	7.1	7.7
50N	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	10.8	8.5	7.0	8.4	8.3	8.4	9.0
46N	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	17.0	12.3	10.6	11.7	11.9	11.2	11.2	12.1
42N	**********	**********	**********	**********	**********	**********	**********	**********	**********	20.2	20.4*******	*******	19.1	18.8	17.6	17.3	17.3	17.7
38N	**********	**********	**********	**********	**********	**********	23.3*******	*******	22.9	23.4*******	*******	23.4	23.8	22.9	22.6	22.6	22.3	22.2
34N	**********	**********	**********	**********	**********	**********	24.7	25.3	26.1*******	*******	26.3	26.1	25.9	25.5	25.4	25.2	25.1	24.9
30N	**********	**********	**********	**********	**********	**********	**********	27.9	28.1	28.3	28.1	28.0	28.1	27.8	27.8	27.7	27.4	27.2
26N	**********	**********	**********	**********	**********	**********	27.8	28.9	28.7	29.0	29.1	29.1	28.8	28.5	28.3	28.2	28.0	27.8
22N	28.8*******	*******	*******	*******	*******	29.5	29.0	28.9	28.8	29.3	29.5	29.8	29.3	29.0	28.7	28.4	28.2	28.1
18N	28.6*******	*******	*******	30.0	29.3	29.6	29.2	29.0	29.4	29.8	29.9	29.7	29.4	29.1	28.8	28.7	28.3	
14N	28.6	28.7*******	*******	29.8	29.1*******	*******	29.1	29.3	29.3	29.8	29.8	29.6	29.5	29.4	29.2	28.8	28.4	
10N	28.1	28.6	28.6*******	29.3	28.9	28.6*******	*******	28.9	28.9	29.5	30.0	30.0	29.9	29.6	29.4	29.0	28.8	
6N	28.2	28.4*******	*******	28.7	28.6	28.5	28.3	28.3	28.4	28.8	29.3	29.6	29.7	29.7	29.4	29.4	29.4	29.3
2N	28.2	28.1*******	*******	28.3	28.2*******	*******	27.9	27.8	28.1	29.2	29.4	29.4	29.4	29.4	29.4	29.4	29.3	29.2
2S	28.0	28.0	28.0*******	*******	27.6*******	*******	27.1	26.9	26.7	26.6	29.0	29.2	29.1	29.0	29.1	29.2	29.1	29.1
6S	27.1	27.4	27.6	27.4	26.2	26.1	26.4	26.4	26.0	25.6**********	*******	*******	27.7	27.7	27.7	28.0	28.2	28.5
10S	25.9	26.4	26.6	26.4	26.2	26.0	26.2	26.2	25.6	25.5	24.7	24.8*******	*******	26.0	26.6	27.0	27.3	27.4
14S	24.3	24.7	24.9	25.0	25.1	24.9	25.2	25.6**********	*******	23.6	23.5	24.1	24.5	24.9	25.6	25.8	25.8	
18S	22.1	21.9	22.4	23.0	23.2	23.2	23.1**********	*******	*******	*******	*******	21.7	22.8	23.0	23.3	23.9	23.9	
22S	19.9	19.9	20.1	20.6	21.2**********	*******	*******	*******	*******	*******	*******	20.9	21.3	21.3	21.2	21.3	21.3	
26S	17.8	17.8	18.0	18.4	19.4**********	*******	*******	*******	*******	*******	*******	20.1	19.8	19.6	19.5	19.2		
30S	15.2	15.5	15.5	16.2	17.1	17.1**********	*******	*******	*******	*******	*******	18.4	18.5	17.7	17.3	17.0		
34S	12.7	12.6	12.8	13.2	14.4	15.3*******	*******	14.0	13.8	13.9**********	*******	15.9	16.0	15.5	15.3	15.6		
38S	11.1	11.1	11.0	11.1	11.4	11.6	11.9	11.7	11.8	12.1	12.4	12.5	13.0	13.5	13.4	13.1	12.9*******	
42S	8.6	8.6	8.6	8.7	8.8	8.8	9.1	9.3	9.4	9.7	9.9*******	*******	11.2	11.0	10.8	11.0*******	*******	10.3
46S	5.5	5.3	5.3	5.4	5.8	6.1	6.5	6.9	7.3	7.6	8.0	8.4	8.6	8.8	8.7	9.0	8.9	8.5
50S	2.3	2.3	2.4	2.6	2.9	3.0	3.2	3.5	3.9	4.1	4.6	5.1	5.6	6.0	6.1	6.4	6.7	6.9
54S	0.5	0.6	0.6	0.6	0.7	0.8	0.9	1.0	1.2	1.3	1.7	2.2	2.6	2.9	3.4	3.7	3.9	3.9
58S	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.7	0.9	1.1	1.0
62S	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	0.3	0.4	0.4
66S	I	I	I	**********	**********	**********	I	I	**********	**********	I	I	I	I	I	I	I	I
70S	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	I	I	I
74S	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	I	I
78S	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	I	I	I
82S	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	I	I	I
86S	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
90S	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

TABLE 5-2 JUL TOTAL CLOUD COVER (6/10)-N/HEM

	180W	175W	170W	165W	160W	155W	150W	145W	140W	135W	130W	125W	120W	115W	110W	105W	100W	95W
90N	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
86N	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82N	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
78N	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
74N	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8
70N	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7
66N	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
62N	0.8	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.7	0.6
58N	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.6
54N	0.9	0.9	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.6
50N	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.6	0.5	0.5	0.5	0.5	0.5	0.5
46N	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.6	0.4	0.3	0.4	0.4	0.4	0.5
42N	0.9	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.6	0.3	0.3	0.4	0.5	0.5	0.5
38N	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.7	0.6	0.3	0.4	0.5	0.6	0.5	0.5
34N	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.5	0.4	0.6	0.6	0.5	0.6
30N	0.5	0.6	0.6	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.7	0.5	0.6	0.5	0.5	0.6
26N	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.6	0.7	0.8	0.8	0.8	0.8	0.5	0.5	0.5	0.5	0.5
22N	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.8	0.8	0.9	0.8	0.5	0.5	0.7	0.6	0.6
18N	0.3	0.2	0.2	0.2	0.4	0.7	0.6	0.6	0.7	0.8	0.8	0.8	0.8	0.7	0.6	0.7	0.7	0.7
14N	**********																	
10N	**********																	
6N	**********																	
2N	**********																	
2S	**********																	
6S	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6
10S	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6
14S	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6
18S	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6
22S	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6
26S	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6
30S	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
34S	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
38S	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
42S	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
46S	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
50S	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7
54S	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
58S	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
62S	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
66S	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
70S	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
74S	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
78S	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
82S	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
86S	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
90S	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

TABLE 5-2 JUL TOTAL CLOUD COVER (E/100)-N/HEM

	90W	85W	80W	75W	70W	65W	60W	55W	50W	45W	40W	35W	30W	25W	20W	15W	10W	5W
90N	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
86N	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82N	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.7
78N	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.7
74N	0.8	0.8	0.7	0.7	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.8
70N	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.7	0.8	0.9	0.9
66N	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9
62N	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8
58N	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.9	0.9	0.8	0.8	0.9	0.9	0.9	0.9	0.8	0.8	0.8
54N	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8
50N	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.7	0.6
46N	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.6	0.5
42N	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.4	0.3
38N	0.5	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.3	0.2
34N	0.6	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.3
30N	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.2
26N	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.3	0.3	0.2
22N	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.4	0.2	0.2	0.2
18N	0.6	0.7	0.7	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.4	0.4	0.3
14N	**********																	
10N	**********																	
6N	**********																	
2N	**********																	
2S	**********																	
6S	0.7	0.7	0.6	0.5	0.5	0.5	0.5	0.4	0.3	0.4	0.4	0.5	0.4	0.3	0.3	0.3	0.4	0.5
10S	0.7	0.7	0.8	0.3	0.5	0.5	0.4	0.3	0.3	0.3	0.5	0.5	0.4	0.4	0.3	0.4	0.4	0.5
14S	0.7	0.7	0.8	0.5	0.2	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.5
18S	0.6	0.7	0.7	0.7	0.3	0.2	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.5
22S	0.6	0.7	0.7	0.7	0.4	0.1	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.5
26S	0.6	0.6	0.7	0.7	0.3	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
30S	0.6	0.6	0.6	0.6	0.2	0.1	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
34S	0.6	0.6	0.6	0.6	0.2	0.2	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5
38S	0.6	0.6	0.6	0.6	0.3	0.3	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
42S	0.6	0.7	0.7	0.6	0.3	0.4	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7
46S	0.7	0.7	0.7	0.7	0.4	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8
50S	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
54S	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
58S	0.7	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
62S	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
66S	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
70S	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.6	0.6	0.6
74S	0.7	0.6	0.6	0.6	0.6	0.5	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5
78S	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4
82S	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
86S	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3
90S	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

TABLE 5-2 JUL TOTAL CLOUD COVER (%/100)-N/HEM

	0E	5E	10E	15E	20E	25E	30E	35E	40E	45E	50E	55E	60E	65E	70E	75E	80E	85E
90N	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
86N	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
82N	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
78N	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
74N	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
70N	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7
66N	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
62N	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6
58N	0.8	0.7	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
54N	0.7	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
50N	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6
46N	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.5	0.6
42N	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.4	0.3	0.2	0.2	0.3	0.5	0.6	0.6
38N	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.3	0.3	0.1	0.1	0.3	0.5	0.6	0.6
34N	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.1	0.1	0.4	0.6	0.6	0.7
30N	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.2	0.2	0.4	0.6	0.7	0.8
26N	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.4	0.5	0.7	0.8	0.8
22N	0.2	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.2	0.2	0.1	0.4	0.4	0.6	0.7	0.8	0.9	0.8
18N	0.3	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.4	0.2	0.3	0.7	0.4	0.8	0.8	0.9	0.9	0.8
14N	**********																	
10N	**********																	
6N	**********																	
2N	**********																	
2S	**********																	
6S	0.5	0.6	0.6	0.4	0.2	0.2	0.2	0.3	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6
10S	0.5	0.6	0.6	0.2	0.1	0.1	0.2	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6
14S	0.5	0.6	0.6	0.1	0.0	0.1	0.2	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6
18S	0.5	0.6	0.6	0.0	0.0	0.1	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6
22S	0.5	0.5	0.5	0.2	0.0	0.1	0.2	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6
26S	0.5	0.5	0.5	0.4	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6
30S	0.5	0.5	0.5	0.5	0.2	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6
34S	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
38S	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
42S	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6
46S	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
50S	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8
54S	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
58S	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
62S	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
66S	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.7	0.7	0.7
70S	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.5
74S	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
78S	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
82S	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
86S	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
90S	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

TABLE 5-2 JUL TOTAL CLOUD COVER (E/100)-N/HEM

	90E	95E	100E	105E	110E	115E	120E	125E	130E	135E	140E	145E	150E	155E	160E	165E	170E	175E
90N	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
86N	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
82N	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
78N	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8
74N	0.8	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
70N	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
66N	0.7	0.7	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
62N	0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8
58N	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.9
54N	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.8	0.9	0.9	0.8	0.9	0.9	0.9
50N	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.9	0.9	0.9	0.9	0.9	0.9
46N	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9
42N	0.6	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9
38N	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
34N	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6
30N	0.8	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5
26N	0.8	0.9	0.9	0.8	0.7	0.7	0.6	0.6	0.6	0.5	0.5	0.6	0.6	0.6	0.5	0.5	0.5	0.5
22N	0.8	0.9	0.9	0.8	0.8	0.7	0.6	0.6	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5
18N	0.9	0.9	0.9	0.8	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.5
14N																		
10N																		
6N																		
2N																		
2S																		
6S	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4
10S	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5
14S	0.6	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.1	0.2	0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.5
18S	0.6	0.6	0.6	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.4	0.5	0.5	0.5	0.5	0.5
22S	0.6	0.6	0.6	0.5	0.4	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.4	0.5	0.5	0.5
26S	0.6	0.6	0.6	0.6	0.5	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.4	0.5	0.5	0.5
30S	0.6	0.6	0.6	0.6	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.4	0.5	0.5	0.5	0.5
34S	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
38S	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.6	0.6
42S	0.6	0.6	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
46S	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
50S	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
54S	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
58S	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
62S	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
66S	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8
70S	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6
74S	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
78S	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5
82S	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
86S	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
90S	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4

TABLE 5-3 (JJA) PLANETARY ALBEDO (FRACTIONS)

	180W	175W	170W	165W	160W	155W	150W	145W	140W	135W	130W	125W	120W	115W	110W	105W	100W	95W
90N																		
86N																		
82N				0.55	0.55	0.55	0.55	0.56				0.56	0.55	0.55	0.55	0.55	0.55	0.55
78N				0.50	0.52	0.52	0.53	0.53	0.53	0.54	0.53	0.53	0.51	0.50	0.50	0.50	0.49	0.49
74N	0.45	0.46	0.47	0.48	0.48	0.49	0.50	0.50	0.50	0.50	0.50	0.50	0.46	0.45	0.44	0.44	0.44	0.44
70N	0.41	0.42	0.43	0.44	0.44	0.44	0.45	0.45	0.45	0.45	0.45	0.43	0.42	0.40	0.40	0.40	0.40	0.40
66N	0.37	0.40	0.40	0.41	0.40	0.40	0.40	0.42	0.42	0.42	0.40	0.39	0.38	0.38	0.38	0.37	0.37	0.36
62N	0.36	0.37	0.38	0.38	0.38	0.38	0.38	0.39	0.39	0.38	0.37	0.36	0.35	0.35	0.35	0.35	0.34	0.34
58N	0.37	0.38	0.37	0.36	0.36	0.37	0.37	0.38	0.37	0.35	0.35	0.34	0.33	0.33	0.33	0.33	0.33	0.33
54N	0.37	0.37	0.35	0.34	0.35	0.35	0.35	0.36	0.35	0.34	0.33	0.32	0.32	0.32	0.32	0.32	0.32	0.32
50N	0.36	0.36	0.35	0.33	0.33	0.33	0.33	0.35	0.33	0.32	0.31	0.30	0.30	0.30	0.30	0.30	0.31	0.31
46N	0.35	0.35	0.33	0.32	0.31	0.31	0.32	0.32	0.31	0.31	0.30	0.29	0.28	0.28	0.28	0.29	0.29	0.29
42N	0.33	0.32	0.30	0.30	0.30	0.29	0.29	0.28	0.28	0.29	0.28	0.27	0.26	0.25	0.27	0.28	0.28	0.28
38N	0.28	0.28	0.27	0.26	0.26	0.25	0.25	0.25	0.25	0.26	0.26	0.26	0.25	0.24	0.25	0.26	0.26	0.26
34N	0.25	0.24	0.24	0.24	0.24	0.24	0.23	0.22	0.23	0.24	0.25	0.25	0.24	0.23	0.24	0.25	0.25	0.25
30N	0.22	0.21	0.22	0.22	0.23	0.22	0.21	0.20	0.22	0.23	0.24	0.24	0.23	0.22	0.22	0.22	0.23	0.23
26N	0.20	0.19	0.20	0.21	0.22	0.21	0.20	0.20	0.20	0.22	0.23	0.23	0.23	0.22	0.21	0.20	0.21	0.22
22N	0.20	0.18	0.20	0.21	0.22	0.21	0.20	0.19	0.20	0.21	0.22	0.22	0.23	0.22	0.21	0.20	0.21	0.22
18N	0.21	0.19	0.20	0.21	0.22	0.21	0.20	0.20	0.20	0.21	0.22	0.22	0.23	0.23	0.22	0.22	0.23	0.23
14N	0.22	0.20	0.21	0.22	0.21	0.20	0.20	0.20	0.20	0.21	0.22	0.22	0.23	0.23	0.23	0.24	0.25	0.25
10N	0.23	0.22	0.22	0.21	0.20	0.20	0.19	0.19	0.20	0.20	0.21	0.22	0.23	0.24	0.24	0.25	0.26	0.26
6N	0.22	0.22	0.21	0.20	0.20	0.18	0.18	0.18	0.19	0.20	0.20	0.20	0.22	0.23	0.25	0.28	0.28	0.27
2N	0.22	0.21	0.20	0.20	0.18	0.17	0.17	0.17	0.17	0.18	0.19	0.19	0.21	0.23	0.25	0.27	0.27	0.27
2S	0.22	0.21	0.20	0.18	0.17	0.15	0.15	0.15	0.15	0.16	0.17	0.18	0.20	0.21	0.23	0.25	0.26	0.27
6S	0.23	0.22	0.20	0.18	0.16	0.15	0.14	0.15	0.15	0.16	0.17	0.18	0.19	0.20	0.22	0.24	0.25	0.27
10S	0.24	0.23	0.21	0.19	0.17	0.16	0.16	0.17	0.17	0.17	0.17	0.18	0.19	0.20	0.22	0.25	0.25	0.27
14S	0.25	0.25	0.22	0.20	0.19	0.18	0.18	0.18	0.19	0.20	0.19	0.18	0.19	0.20	0.22	0.25	0.26	0.26
18S	0.25	0.25	0.23	0.21	0.20	0.20	0.20	0.20	0.21	0.21	0.20	0.19	0.20	0.21	0.22	0.24	0.25	0.26
22S	0.25	0.26	0.25	0.23	0.22	0.22	0.22	0.23	0.23	0.23	0.22	0.22	0.22	0.23	0.23	0.23	0.24	0.25
26S	0.25	0.27	0.25	0.24	0.24	0.24	0.25	0.25	0.25	0.24	0.25	0.25	0.24	0.24	0.25	0.25	0.25	0.25
30S	0.27	0.28	0.26	0.25	0.25	0.26	0.26	0.27	0.26	0.26	0.27	0.27	0.26	0.26	0.27	0.28	0.28	0.27
34S	0.28	0.29	0.28	0.27	0.27	0.28	0.28	0.29	0.28	0.28	0.29	0.29	0.29	0.29	0.30	0.30	0.30	0.29
38S	0.30	0.30	0.30	0.29	0.29	0.30	0.30	0.31	0.30	0.30	0.31	0.32	0.31	0.31	0.32	0.32	0.32	0.31
42S	0.32	0.33	0.32	0.31	0.31	0.32	0.32	0.33	0.32	0.32	0.34	0.35	0.35	0.35	0.34	0.33	0.34	0.35
46S	0.35	0.35	0.35	0.35	0.34	0.34	0.34	0.34	0.34	0.34	0.35	0.36	0.37	0.38	0.35	0.34	0.35	0.37
50S	0.39	0.38	0.38	0.37	0.37	0.36	0.36	0.36	0.35	0.35	0.36	0.37	0.37	0.37	0.35	0.33	0.34	0.36
54S				0.40	0.40	0.39								0.36	0.35	0.33	0.34	0.35
58S																		
62S																		
66S																		
70S																		
74S																		
78S																		
82S																		
86S																		
90S																		

TABLE 5-3 (JJA) PLANETARY ALBEDO (FRACTIONS)

	90W	85W	80W	75W	70W	65W	60W	55W	50W	45W	40W	35W	30W	25W	20W	15W	10W	5W
90N																		
86N							0.56											
82N	0.53	0.52				0.50	0.53	0.55			0.55	0.54	0.53	0.52	0.51	0.50	0.50	0.49
78N	0.48	0.45				0.47	0.50	0.51	0.54		0.54	0.53	0.52	0.51	0.50	0.49	0.48	0.48
74N	0.43	0.40			0.40	0.43	0.45	0.48	0.52	0.53	0.52	0.51	0.51	0.50	0.49	0.47	0.46	0.46
70N	0.38	0.36	0.35	0.35	0.36	0.38	0.40	0.43	0.48	0.51	0.50	0.48	0.47	0.45	0.45	0.45	0.45	0.45
66N	0.35	0.34	0.33	0.32	0.33	0.35	0.35	0.38	0.44	0.47	0.45	0.43	0.41	0.40	0.42	0.43	0.43	0.43
62N	0.34	0.33	0.32	0.31	0.32	0.34	0.35	0.37	0.40	0.45	0.43	0.40	0.39	0.38	0.40	0.42	0.42	0.42
58N	0.33	0.33	0.33	0.33	0.34	0.37	0.38	0.37	0.38	0.40	0.40	0.40	0.38	0.37	0.38	0.41	0.40	0.40
54N	0.32	0.32	0.33	0.34	0.35	0.36	0.37	0.36	0.37	0.38	0.38	0.38	0.37	0.37	0.37	0.39	0.38	0.38
50N	0.31	0.31	0.32	0.33	0.33	0.33	0.34	0.35	0.35	0.37	0.36	0.35	0.35	0.36	0.35	0.35	0.35	0.35
46N	0.30	0.30	0.30	0.31	0.30	0.30	0.32	0.33	0.34	0.35	0.34	0.33	0.33	0.34	0.33	0.32	0.32	0.32
42N	0.28	0.28	0.29	0.30	0.29	0.29	0.30	0.31	0.31	0.32	0.30	0.30	0.30	0.30	0.29	0.29	0.29	0.28
38N	0.27	0.27	0.28	0.28	0.27	0.27	0.28	0.30	0.29	0.28	0.27	0.26	0.25	0.25	0.25	0.26	0.25	0.25
34N	0.26	0.26	0.26	0.26	0.26	0.25	0.26	0.27	0.26	0.25	0.24	0.23	0.23	0.22	0.23	0.24	0.24	0.24
30N	0.24	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.24	0.23	0.22	0.22	0.21	0.20	0.22	0.22	0.23	0.25
26N	0.23	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.23	0.23	0.22	0.20	0.20	0.19	0.20	0.20	0.24	0.25
22N	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.22	0.22	0.22	0.21	0.20	0.20	0.21	0.22	0.24	0.25
18N	0.24	0.24	0.24	0.23	0.23	0.23	0.23	0.22	0.21	0.20	0.21	0.21	0.21	0.21	0.22	0.23	0.24	0.26
14N	0.25	0.25	0.25	0.24	0.24	0.23	0.23	0.21	0.20	0.20	0.20	0.21	0.21	0.21	0.22	0.23	0.25	0.26
10N	0.26	0.26	0.25	0.25	0.24	0.24	0.23	0.21	0.20	0.19	0.20	0.20	0.20	0.20	0.21	0.23	0.24	0.26
6N	0.27	0.27	0.26	0.26	0.25	0.25	0.23	0.20	0.19	0.19	0.19	0.19	0.19	0.20	0.20	0.22	0.23	0.25
2N	0.27	0.27	0.27	0.28	0.27	0.25	0.22	0.20	0.18	0.18	0.18	0.19	0.19	0.19	0.20	0.20	0.22	0.23
2S	0.27	0.28	0.28	0.29	0.27	0.24	0.22	0.19	0.18	0.17	0.19	0.20	0.20	0.19	0.19	0.19	0.20	0.20
6S	0.27	0.26	0.29	0.29	0.26	0.23	0.22	0.19	0.18	0.17	0.18	0.21	0.20	0.18	0.18	0.18	0.19	0.20
10S	0.27	0.26	0.28	0.28	0.26	0.23	0.22	0.20	0.18	0.17	0.18	0.20	0.19	0.18	0.18	0.18	0.19	0.20
14S	0.27	0.27	0.28	0.28	0.26	0.23	0.22	0.20	0.19	0.18	0.19	0.20	0.18	0.17	0.18	0.19	0.20	0.22
18S	0.26	0.27	0.27	0.27	0.26	0.24	0.22	0.21	0.20	0.19	0.20	0.21	0.20	0.18	0.20	0.20	0.21	0.23
22S	0.25	0.26	0.26	0.27	0.26	0.25	0.23	0.22	0.22	0.21	0.22	0.22	0.22	0.21	0.22	0.22	0.23	0.24
26S	0.25	0.25	0.26	0.27	0.27	0.25	0.25	0.24	0.23	0.23	0.24	0.24	0.23	0.24	0.24	0.24	0.24	0.25
30S	0.27	0.27	0.27	0.28	0.28	0.28	0.26	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.26
34S	0.29	0.28	0.29	0.29	0.30	0.31	0.30	0.28	0.27	0.28	0.28	0.28	0.28	0.29	0.29	0.28	0.29	0.29
38S	0.30	0.30	0.30	0.32	0.33	0.35	0.33	0.31	0.30	0.31	0.31	0.32	0.32	0.33	0.32	0.32	0.33	0.34
42S	0.33	0.32	0.34	0.36	0.37	0.38	0.36	0.35	0.36	0.36	0.37	0.38	0.38	0.39	0.38	0.38	0.39	0.40
46S	0.35	0.34	0.36	0.39	0.40	0.40	0.40	0.38	0.40	0.41	0.42	0.43	0.44	0.45	0.44	0.43	0.42	0.41
50S	0.34	0.35	0.36	0.38	0.38	0.38	0.39	0.40	0.39	0.40	0.40	0.41	0.43	0.44	0.44	0.43	0.42	0.41
54S	0.35						0.39	0.40	0.40	0.39	0.39	0.40	0.40	0.40	0.42	0.42	0.41	
58S																		
62S																		
66S																		
70S																		
74S																		
78S																		
82S																		
86S																		
90S																		

TABLE 5-3 (JJA) PLANETARY ALBEDO (FRACTIONS)

	0E	5E	10E	15E	20E	25E	30E	35E	40E	45E	50E	55E	60E	65E	70E	75E	80E	85E
90N																		
86N																		0.51
82N	0.49			0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.51				
78N	0.48			0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.46	0.47	0.47	0.47	0.47	0.47
74N	0.46		0.45	0.43	0.42	0.40	0.40	0.39	0.39	0.40	0.40	0.41	0.42	0.43	0.44	0.44	0.43	0.43
70N	0.45	0.44	0.43	0.42	0.40	0.37	0.37	0.37	0.37	0.37	0.38	0.39	0.39	0.40	0.40	0.41	0.40	0.40
66N	0.43	0.42	0.41	0.40	0.37	0.35	0.35	0.35	0.35	0.35	0.36	0.37	0.37	0.38	0.38	0.38	0.38	0.37
62N	0.42	0.40	0.40	0.38	0.36	0.33	0.33	0.34	0.34	0.34	0.35	0.35	0.35	0.35	0.35	0.36	0.36	0.35
58N	0.40	0.38	0.38	0.37	0.36	0.33	0.33	0.33	0.33	0.34	0.34	0.34	0.34	0.34	0.35	0.35	0.35	0.34
54N	0.38	0.37	0.36	0.35	0.35	0.35	0.33	0.31	0.32	0.32	0.33	0.33	0.33	0.33	0.34	0.34	0.34	0.33
50N	0.35	0.36	0.35	0.34	0.33	0.33	0.32	0.30	0.31	0.31	0.32	0.32	0.32	0.32	0.33	0.33	0.33	0.33
46N	0.31	0.35	0.33	0.31	0.32	0.32	0.30	0.28	0.30	0.30	0.31	0.31	0.31	0.31	0.32	0.32	0.33	0.34
42N	0.28	0.32	0.30	0.30	0.30	0.30	0.28	0.26	0.28	0.30	0.30	0.30	0.30	0.30	0.31	0.32	0.34	0.34
38N	0.26	0.27	0.26	0.25	0.25	0.25	0.24	0.24	0.26	0.28	0.29	0.29	0.29	0.29	0.30	0.32	0.34	0.35
34N	0.24	0.25	0.24	0.23	0.21	0.20	0.21	0.23	0.25	0.27	0.28	0.28	0.28	0.28	0.30	0.32	0.35	0.36
30N	0.25	0.25	0.25	0.25	0.25	0.25	0.24	0.24	0.24	0.25	0.26	0.27	0.27	0.27	0.30	0.32	0.35	0.36
26N	0.26	0.26	0.26	0.26	0.26	0.25	0.25	0.25	0.23	0.25	0.25	0.26	0.26	0.25	0.29	0.32	0.35	0.36
22N	0.26	0.27	0.27	0.27	0.27	0.26	0.26	0.25	0.24	0.23	0.24	0.25	0.25	0.25	0.28	0.32	0.34	0.36
18N	0.27	0.27	0.28	0.28	0.27	0.27	0.26	0.25	0.24	0.23	0.23	0.23	0.22	0.22	0.26	0.31	0.32	0.35
14N	0.27	0.28	0.29	0.29	0.28	0.28	0.27	0.26	0.25	0.24	0.23	0.21	0.20	0.20	0.25	0.30	0.30	0.32
10N	0.27	0.28	0.29	0.30	0.29	0.28	0.27	0.27	0.27	0.25	0.23	0.20	0.20	0.21	0.24	0.26	0.27	0.29
6N	0.26	0.28	0.30	0.31	0.30	0.29	0.28	0.28	0.29	0.27	0.23	0.20	0.20	0.20	0.22	0.23	0.25	0.25
2N	0.25	0.26	0.28	0.30	0.29	0.28	0.27	0.27	0.27	0.25	0.20	0.20	0.20	0.21	0.22	0.23	0.23	0.24
2S	0.23	0.25	0.27	0.28	0.27	0.26	0.25	0.25	0.24	0.22	0.20	0.19	0.20	0.20	0.20	0.21	0.22	0.23
6S	0.22	0.24	0.25	0.27	0.26	0.25	0.24	0.23	0.22	0.20	0.19	0.19	0.19	0.19	0.20	0.20	0.21	0.22
10S	0.23	0.23	0.25	0.26	0.25	0.23	0.22	0.21	0.20	0.20	0.19	0.18	0.18	0.18	0.19	0.20	0.20	0.21
14S	0.25	0.24	0.24	0.25	0.24	0.23	0.22	0.20	0.20	0.19	0.18	0.18	0.18	0.17	0.18	0.19	0.20	0.22
18S	0.25	0.25	0.24	0.24	0.23	0.22	0.21	0.20	0.19	0.19	0.19	0.19	0.18	0.17	0.19	0.20	0.20	0.22
22S	0.25	0.25	0.24	0.24	0.23	0.23	0.22	0.20	0.20	0.20	0.20	0.20	0.20	0.21	0.21	0.22	0.22	0.22
26S	0.26	0.26	0.25	0.24	0.24	0.24	0.22	0.20	0.20	0.20	0.20	0.22	0.22	0.23	0.23	0.24	0.24	0.24
30S	0.27	0.27	0.26	0.25	0.25	0.25	0.23	0.22	0.22	0.22	0.23	0.24	0.25	0.25	0.25	0.25	0.25	0.25
34S	0.30	0.29	0.28	0.28	0.26	0.25	0.24	0.24	0.24	0.25	0.25	0.25	0.27	0.28	0.28	0.28	0.28	0.28
38S	0.35	0.32	0.32	0.31	0.30	0.28	0.27	0.27	0.28	0.30	0.30	0.30	0.30	0.31	0.32	0.32	0.33	0.34
42S	0.40	0.39	0.38	0.37	0.35	0.33	0.33	0.34	0.35	0.37	0.37	0.38	0.37	0.37	0.38	0.40	0.41	0.44
46S	0.41				0.40	0.37	0.38	0.40	0.41					0.41	0.43	0.45	0.47	0.50
50S						0.40	0.40										0.45	0.45
54S																		
58S																		
62S																		
66S																		
70S																		
74S																		
78S																		
82S																		
86S																		
90S																		

TABLE 5-3 (JJA) PLANETARY ALBEDO (FRACTIONS)

	90E	95E	100E	105E	110E	115E	120E	125E	130E	135E	140E	145E	150E	155E	160E	165E	170E	175E
90N																		
86N																		
82N				0.51	0.52	0.53	0.52	0.52	0.51	0.50	0.52	0.53	0.54	0.54	0.50	0.55	0.55	0.55
78N				0.45	0.45	0.47	0.46	0.45	0.45	0.45	0.46	0.47	0.48	0.48	0.49	0.50	0.50	0.50
74N	0.41	0.40	0.40	0.40	0.40	0.42	0.41	0.40	0.40	0.40	0.40	0.43	0.43	0.44	0.45	0.45	0.45	0.45
70N	0.38	0.37	0.36	0.35	0.35	0.36	0.37	0.37	0.36	0.35	0.37	0.38	0.39	0.40	0.40	0.40	0.40	0.40
66N	0.36	0.35	0.34	0.32	0.33	0.34	0.34	0.34	0.33	0.32	0.33	0.35	0.35	0.35	0.35	0.36	0.36	0.36
62N	0.34	0.33	0.31	0.30	0.31	0.32	0.33	0.32	0.31	0.30	0.31	0.32	0.33	0.35	0.35	0.36	0.35	0.34
58N	0.33	0.32	0.31	0.30	0.31	0.32	0.32	0.33	0.32	0.30	0.31	0.33	0.34	0.36	0.36	0.36	0.36	0.35
54N	0.33	0.33	0.32	0.31	0.32	0.32	0.33	0.33	0.33	0.31	0.32	0.33	0.35	0.37	0.36	0.36	0.36	0.36
50N	0.34	0.34	0.33	0.32	0.32	0.32	0.33	0.33	0.32	0.30	0.31	0.32	0.34	0.35	0.35	0.35	0.35	0.36
46N	0.34	0.35	0.34	0.33	0.33	0.32	0.32	0.32	0.30	0.29	0.30	0.31	0.33	0.34	0.33	0.32	0.33	0.35
42N	0.35	0.35	0.34	0.33	0.33	0.32	0.31	0.30	0.29	0.28	0.29	0.30	0.31	0.32	0.31	0.30	0.31	0.32
38N	0.36	0.36	0.35	0.33	0.32	0.31	0.30	0.29	0.28	0.27	0.27	0.28	0.28	0.29	0.28	0.28	0.28	0.29
34N	0.37	0.37	0.35	0.34	0.33	0.31	0.30	0.28	0.27	0.26	0.26	0.26	0.26	0.27	0.25	0.25	0.25	0.25
30N	0.38	0.38	0.36	0.35	0.33	0.32	0.30	0.27	0.26	0.25	0.24	0.23	0.24	0.25	0.24	0.24	0.23	0.23
26N	0.38	0.38	0.37	0.35	0.35	0.32	0.30	0.26	0.25	0.23	0.22	0.21	0.22	0.23	0.23	0.23	0.23	0.22
22N	0.38	0.36	0.37	0.36	0.34	0.30	0.26	0.25	0.24	0.23	0.22	0.21	0.22	0.23	0.24	0.24	0.23	0.22
18N	0.36	0.37	0.36	0.35	0.32	0.27	0.25	0.23	0.24	0.24	0.24	0.24	0.24	0.23	0.25	0.25	0.24	0.22
14N	0.35	0.35	0.35	0.33	0.30	0.25	0.23	0.22	0.24	0.25	0.26	0.26	0.25	0.24	0.25	0.26	0.25	0.23
10N	0.30	0.31	0.31	0.30	0.27	0.24	0.22	0.21	0.23	0.25	0.28	0.28	0.25	0.24	0.24	0.25	0.24	0.23
6N	0.26	0.28	0.29	0.28	0.25	0.23	0.21	0.20	0.23	0.25	0.28	0.29	0.26	0.24	0.24	0.24	0.24	0.23
2N	0.25	0.26	0.26	0.25	0.24	0.22	0.20	0.19	0.20	0.24	0.27	0.29	0.27	0.25	0.24	0.23	0.23	0.22
2S	0.24	0.25	0.24	0.23	0.22	0.20	0.19	0.18	0.19	0.20	0.25	0.27	0.27	0.25	0.24	0.23	0.23	0.22
6S	0.23	0.24	0.23	0.22	0.20	0.19	0.18	0.17	0.18	0.20	0.21	0.25	0.25	0.25	0.23	0.24	0.23	0.23
10S	0.23	0.23	0.22	0.21	0.20	0.18	0.17	0.16	0.17	0.19	0.20	0.21	0.21	0.21	0.23	0.24	0.24	0.23
14S	0.24	0.24	0.23	0.20	0.19	0.17	0.16	0.15	0.16	0.18	0.18	0.17	0.18	0.19	0.22	0.25	0.25	0.24
18S	0.24	0.24	0.23	0.21	0.20	0.18	0.16	0.15	0.18	0.20	0.19	0.17	0.18	0.19	0.22	0.25	0.25	0.24
22S	0.23	0.23	0.23	0.22	0.22	0.20	0.20	0.20	0.20	0.21	0.21	0.21	0.21	0.20	0.22	0.24	0.24	0.24
26S	0.24	0.24	0.24	0.24	0.24	0.23	0.22	0.22	0.22	0.22	0.22	0.23	0.22	0.22	0.22	0.23	0.24	0.25
30S	0.25	0.25	0.26	0.26	0.25	0.25	0.24	0.23	0.23	0.24	0.24	0.25	0.24	0.24	0.23	0.24	0.25	0.26
34S	0.28	0.28	0.28	0.28	0.28	0.27	0.26	0.25	0.25	0.25	0.25	0.26	0.25	0.25	0.25	0.25	0.26	0.27
38S	0.32	0.32	0.31	0.30	0.30	0.30	0.30	0.26	0.28	0.28	0.29	0.30	0.28	0.27	0.28	0.28	0.28	0.29
42S	0.40	0.37	0.35	0.33	0.34	0.35	0.38	0.32	0.32	0.32	0.32	0.32	0.31	0.30	0.31	0.32	0.32	0.32
46S	0.45	0.42	0.40	0.38	0.36	0.37	0.36	0.35	0.35	0.35	0.35	0.35	0.35	0.34	0.35	0.37	0.35	0.35
50S	0.44	0.43	0.41	0.40	0.38	0.38	0.38	0.38	0.38	0.37	0.38	0.39	0.37	0.36	0.38	0.40	0.40	0.39
54S				0.42	0.41	0.40	0.39	0.40	0.40	0.40	0.39	0.40	0.41	0.40	0.40	0.40		
58S																		
62S																		
66S																		
70S																		
74S																		
78S																		
82S																		
86S																		
90S																		

TABLE 5-4 (JJA) LONGWAVE RADIATION (100 LY/DAY)

	180W	175W	170W	165W	160W	155W	150W	145W	140W	135W	130W	125W	120W	115W	110W	105W	100W	95W
90N																		
86N																		
82N																		
78N																		
74N																		
70N																		
66N																		
62N															4.75	4.75	4.75	
58N	4.75						4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.90	4.90	4.90	4.75
54N	4.75	4.75	4.75	4.75	4.75		4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.90	4.90	4.90	4.75
50N	4.90	4.90	4.90	4.90	4.75	4.75	4.90	4.90	4.90	4.90	4.90	4.90	5.04	5.04	5.04	5.04	5.04	5.04
46N	4.90	4.90	5.04	5.04	4.90	4.90	5.04	5.04	5.04	5.04	5.04	5.04	5.18	5.18	5.18	5.18	5.18	5.18
42N	5.04	5.04	5.04	5.18	5.04	5.04	5.18	5.18	5.18	5.04	5.18	5.18	5.18	5.18	5.18	5.33	5.18	5.18
38N	5.18	5.04	5.18	5.18	5.18	5.18	5.18	5.33	5.18	5.18	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.18
34N	5.33	5.18	5.33	5.33	5.33	5.33	5.33	5.47	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33
30N	5.47	5.47	5.47	5.33	5.33	5.47	5.47	5.62	5.47	5.47	5.47	5.47	5.33	5.33	5.33	5.47	5.47	5.47
26N	5.62	5.62	5.62	5.47	5.47	5.47	5.62	5.76	5.62	5.62	5.47	5.47	5.33	5.33	5.33	5.47	5.62	5.62
22N	5.62	5.62	5.62	5.47	5.47	5.47	5.62	5.76	5.62	5.62	5.47	5.47	5.33	5.33	5.33	5.33	5.47	5.47
18N	5.47	5.47	5.47	5.33	5.33	5.47	5.47	5.62	5.62	5.47	5.47	5.47	5.33	5.33	5.18	5.18	5.18	5.18
14N	5.33	5.33	5.33	5.33	5.33	5.47	5.47	5.62	5.47	5.47	5.47	5.33	5.33	5.18	5.18	5.04	5.04	5.04
10N	5.18	5.33	5.33	5.18	5.18	5.33	5.33	5.47	5.33	5.33	5.33	5.33	5.33	5.18	5.04	4.90	4.90	4.90
6N	5.18	5.18	5.18	5.04	5.18	5.33	5.33	5.33	5.47	5.47	5.33	5.33	5.33	5.18	5.18	4.90	4.75	4.75
2N	5.18	5.18	5.18	5.18	5.33	5.33	5.47	5.47	5.62	5.62	5.47	5.47	5.33	5.33	5.18	5.04	4.90	4.90
2S	5.18	5.47	5.47	5.62	5.62	5.62	5.62	5.62	5.76	5.76	5.62	5.62	5.47	5.47	5.33	5.18	5.18	5.18
6S	5.33	5.62	5.62	5.62	5.62	5.76	5.90	5.90	5.90	5.76	5.76	5.62	5.62	5.62	5.47	5.33	5.33	5.33
10S	5.33	5.47	5.62	5.62	5.76	5.76	5.90	5.90	5.90	5.76	5.76	5.76	5.62	5.62	5.47	5.47	5.33	5.33
14S	5.47	5.47	5.62	5.62	5.62	5.76	5.76	5.76	5.76	5.76	5.76	5.62	5.62	5.62	5.47	5.47	5.47	5.33
18S	5.33	5.33	5.47	5.47	5.62	5.62	5.62	5.62	5.62	5.62	5.62	5.62	5.47	5.47	5.47	5.47	5.33	5.33
22S	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33
26S	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.18
30S	5.04	5.04	5.04	5.04	5.04	5.04	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
34S	4.90	4.75	4.90	4.90	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
38S	4.75	4.75	4.75	4.75	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.46	4.61	4.61
42S	4.46	4.46	4.46	4.61	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.32	4.32	4.46	4.46
46S	4.32	4.32	4.32	4.46	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.18	4.32	4.32
50S	4.18	4.18	4.18	4.32	4.18	4.18	4.18	4.18	4.18	4.18	4.18	4.18	4.18	4.18	4.03	4.03	4.18	4.03
54S	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	3.89	4.03	3.89
58S	3.74	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.74
62S	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.74	3.74	3.74	3.60	3.60	3.60
66S	3.31	3.31	3.31	3.31	3.31	3.31	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46
70S	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.02
74S	2.74	2.74	2.74	2.74	2.74	2.88	2.88	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	2.88	2.88	2.88
78S	2.59	2.59	2.59	2.59	2.59	2.59	2.74	2.88	2.88	2.88	2.88	2.88	2.74	2.74	2.74	2.74	2.74	2.74
82S	2.30	2.16	2.30				2.59	2.74	2.74	2.74	2.74	2.74	2.59	2.59	2.59	2.59		
86S	2.16		2.16					2.59	2.59	2.59	2.59							
90S																		

TABLE 5-4 (JJA) LONGWAVE RADIATION (100 LY/DAY)

	90W	85W	80W	75W	70W	65W	60W	55W	50W	45W	40W	35W	30W	25W	20W	15W	10W	5W
90N																		
86N																4.32		
82N																4.32	4.32	
78N																4.32	4.32	
74N																4.46	4.32	4.32
70N																4.46	4.46	4.32
66N																4.46	4.46	4.46
62N																4.61	4.61	4.46
58N	4.75	4.75	4.75	4.75	4.75	4.75										4.61	4.61	4.61
54N	4.75	4.75	4.75	4.75	4.75	4.75										4.75	4.75	4.61
50N	4.90	4.90	4.90	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
46N	5.04	4.90	4.90	4.90	4.90	4.90	4.90	4.75	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	5.04
42N	5.04	5.04	4.90	4.90	4.90	4.90	4.90	4.90	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.18
38N	5.18	5.04	5.04	4.90	4.90	4.90	5.04	5.04	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.33	5.47
34N	5.18	5.18	5.04	4.90	4.90	5.04	5.04	5.18	5.18	5.18	5.18	5.33	5.33	5.33	5.33	5.33	5.47	5.62
30N	5.33	5.18	5.04	5.04	5.04	5.04	5.18	5.18	5.33	5.33	5.33	5.33	5.47	5.47	5.47	5.62	5.62	5.76
26N	5.33	5.18	5.04	5.04	5.04	5.04	5.18	5.18	5.33	5.33	5.33	5.47	5.47	5.62	5.62	5.62	5.76	5.76
22N	5.18	5.18	5.04	5.04	5.04	5.04	5.18	5.18	5.33	5.33	5.47	5.47	5.47	5.62	5.62	5.62	5.62	5.62
18N	5.04	5.04	5.04	4.90	5.04	5.18	5.18	5.33	5.33	5.33	5.47	5.47	5.47	5.47	5.62	5.62	5.62	5.47
14N	4.90	5.04	4.90	4.90	5.04	5.18	5.18	5.33	5.33	5.33	5.47	5.47	5.47	5.47	5.47	5.47	5.47	5.33
10N	4.90	4.90	4.90	4.90	4.90	5.18	5.18	5.33	5.33	5.47	5.47	5.47	5.47	5.47	5.47	5.47	5.33	5.33
6N	4.75	4.90	4.75	4.75	4.90	5.04	5.18	5.33	5.47	5.47	5.47	5.47	5.47	5.47	5.47	5.33	5.33	5.33
2N	4.90	5.04	4.90	4.75	5.04	5.18	5.33	5.33	5.47	5.62	5.47	5.47	5.47	5.47	5.47	5.47	5.33	5.33
2S	5.18	5.18	5.18	5.18	5.18	5.18	5.33	5.47	5.62	5.62	5.62	5.62	5.62	5.62	5.62	5.62	5.47	5.33
6S	5.33	5.33	5.33	5.33	5.33	5.33	5.47	5.62	5.62	5.76	5.62	5.62	5.62	5.76	5.62	5.62	5.47	5.33
10S	5.33	5.33	5.33	5.47	5.47	5.47	5.62	5.76	5.76	5.76	5.76	5.62	5.76	5.76	5.76	5.62	5.47	5.47
14S	5.33	5.33	5.47	5.47	5.47	5.62	5.76	5.90	5.90	5.76	5.76	5.62	5.76	5.76	5.76	5.62	5.47	5.47
18S	5.33	5.33	5.47	5.47	5.47	5.62	5.62	5.90	5.76	5.62	5.62	5.47	5.62	5.62	5.62	5.62	5.47	5.33
22S	5.33	5.33	5.33	5.33	5.33	5.47	5.47	5.62	5.62	5.47	5.47	5.33	5.47	5.47	5.47	5.47	5.33	5.33
26S	5.18	5.18	5.18	5.18	5.18	5.33	5.33	5.33	5.33	5.33	5.18	5.18	5.18	5.33	5.33	5.33	5.18	5.18
30S	4.90	5.04	5.04	5.04	5.04	5.04	5.04	5.18	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.18	5.04	4.90
34S	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.90	4.90	4.75	4.75
38S	4.61	4.46	4.46	4.46	4.46	4.46	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.61	4.75	4.75	4.61	4.46
42S	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.46	4.46	4.46	4.46	4.46	4.32	4.32	4.32
46S	4.18	4.18	4.18	4.18	4.18	4.18	4.18	4.18	4.18	4.18	4.18	4.32	4.32	4.32	4.18	4.18	4.18	4.18
50S	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03
54S	3.89	3.89	3.89	3.89	3.89	4.03	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89
58S	3.74	3.74	3.74	3.74	3.89	3.89	3.89	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74
62S	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.46	3.60	3.60	3.60	3.60	3.60	3.46	3.46	3.46	3.46	3.46
66S	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.31	3.46	3.46	3.46	3.46	3.46	3.31	3.31	3.31	3.31	3.31
70S	3.17	3.17	3.17	3.17	3.17	3.02	3.17	3.17	3.17	3.31	3.31	3.31	3.17	3.17	3.02	3.02	3.02	3.02
74S	2.88	3.02	3.02	3.02	3.02				3.02	3.02	3.02	3.02	2.88	2.88	2.88	2.88	2.88	2.88
78S	2.74	2.74	2.74	2.74	2.88				2.88	2.88	2.88	2.74	2.74	2.74	2.74	2.74	2.74	2.74
82S	2.59	2.59	2.59	2.59	2.74				2.74	2.74	2.59	2.59	2.59	2.74	2.59	2.59		
86S		2.45			2.59				2.59	2.59				2.45				
90S																		

TABLE 5-4 (JJA) LONGWAVE RADIATION (100 LY/DAY)

	0E	5E	10E	15E	20E	25E	30E	35E	40E	45E	50E	55E	60E	65E	70E	75E	80E	85E
90N																		
86N				4.32														
82N			4.32	4.32														
78N			4.32	4.46														
74N	4.32	4.32	4.46	4.46														
70N	4.46	4.46	4.46	4.61														
66N	4.46	4.46	4.61	4.61														
62N	4.61	4.61	4.61	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
58N	4.61	4.61	4.75	4.75	4.75	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
54N	4.75	4.75	4.75	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	5.04	5.04	4.90	4.90	4.90	4.90
50N	4.90	4.75	4.90	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.18	5.04	5.04	5.04	5.04
46N	5.04	5.04	5.04	5.04	5.04	5.04	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.33	5.18	5.18	5.04	5.04
42N	5.18	5.18	5.18	5.18	5.18	5.18	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.47	5.33	5.18	5.04	4.90
38N	5.62	5.47	5.47	5.47	5.33	5.47	5.47	5.62	5.62	5.62	5.62	5.62	5.62	5.62	5.47	5.18	5.04	4.90
34N	5.62	5.62	5.62	5.62	5.62	5.62	5.62	5.62	5.76	5.76	5.76	5.76	5.90	5.76	5.47	5.18	4.90	4.75
30N	5.76	5.76	5.90	5.90	5.90	5.76	5.76	5.76	5.76	5.76	5.76	5.76	5.90	5.62	5.33	5.04	4.75	4.61
26N	5.76	5.90	6.05	6.05	6.05	5.90	5.76	5.76	5.76	5.76	5.76	5.76	5.62	5.47	5.18	4.90	4.75	4.46
22N	5.62	5.76	5.90	5.90	5.90	5.76	5.62	5.62	5.62	5.62	5.62	5.62	5.47	5.33	5.04	4.75	4.61	4.32
18N	5.47	5.47	5.62	5.62	5.62	5.62	5.47	5.47	5.33	5.33	5.33	5.33	5.33	5.18	4.90	4.61	4.46	4.32
14N	5.18	5.18	5.33	5.33	5.33	5.33	5.18	5.18	5.18	5.04	5.18	5.18	5.04	5.04	4.75	4.46	4.32	4.18
10N	5.18	5.04	5.04	5.04	5.04	4.90	4.90	5.04	5.04	4.90	5.04	4.90	4.90	4.75	4.61	4.46	4.46	4.32
6N	5.18	5.04	4.90	4.90	4.75	4.75	4.75	4.90	4.90	5.04	5.04	4.90	4.75	4.75	4.61	4.61	4.61	4.46
2N	5.18	5.04	4.90	4.75	4.75	4.61	4.75	4.90	5.04	5.18	5.04	5.04	4.75	4.75	4.75	4.75	4.75	4.75
2S	5.18	5.18	5.18	5.04	5.04	4.90	5.04	5.18	5.18	5.33	5.18	5.18	5.04	4.90	4.90	4.90	4.90	4.90
6S	5.18	5.18	5.18	5.18	5.18	5.04	5.18	5.33	5.33	5.47	5.47	5.33	5.33	5.18	5.18	5.18	5.18	5.04
10S	5.33	5.33	5.33	5.33	5.33	5.18	5.33	5.47	5.47	5.62	5.62	5.47	5.47	5.47	5.47	5.33	5.33	5.18
14S	5.33	5.33	5.33	5.33	5.33	5.33	5.47	5.62	5.62	5.76	5.76	5.62	5.62	5.62	5.62	5.62	5.47	5.33
18S	5.33	5.33	5.33	5.33	5.33	5.47	5.47	5.62	5.62	5.76	5.76	5.62	5.62	5.62	5.62	5.62	5.47	5.47
22S	5.18	5.33	5.33	5.33	5.33	5.33	5.47	5.47	5.62	5.62	5.62	5.47	5.47	5.47	5.47	5.47	5.33	5.33
26S	5.18	5.18	5.18	5.18	5.33	5.33	5.33	5.33	5.47	5.47	5.47	5.33	5.33	5.33	5.33	5.33	5.33	5.18
30S	5.04	5.04	5.04	5.04	5.18	5.18	5.18	5.18	5.33	5.33	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.04
34S	4.75	4.90	4.90	4.90	4.90	5.04	5.04	5.04	5.18	5.18	5.04	5.04	4.90	5.04	5.04	4.90	4.90	4.90
38S	4.61	4.61	4.75	4.75	4.75	4.75	4.75	4.90	4.90	4.90	4.75	4.75	4.75	4.75	4.75	4.75	4.61	4.61
42S	4.32	4.46	4.46	4.46	4.46	4.61	4.61	4.61	4.61	4.61	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.32
46S	4.18	4.18	4.18	4.18	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.18	4.18	4.18	4.18	4.18	4.18	4.18
50S	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.18	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03
54S	3.89	3.89	3.89	3.89	3.89	3.89	3.74	3.89	3.89	3.89	3.89	3.74	3.74	3.74	3.74	3.74	3.74	3.74
58S	3.74	3.74	3.74	3.74	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.46	3.60	3.60	3.60	3.46	3.46	3.46
62S	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.31	3.31	3.31	3.31	3.31	3.31	3.31	3.31	3.31	3.31	3.31
66S	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02
70S	2.88	3.02	3.02	3.02	2.88	2.88	2.74	2.74	2.59	2.59	2.59	2.59	2.59	2.74	2.59	2.59	2.59	2.59
74S	2.59	2.59	2.74	2.74	2.59	2.59	2.59	2.59	2.45	2.30	2.30	2.30	2.30	2.45	2.45	2.45	2.16	2.16
78S							2.45	2.45	2.30				2.16	2.16	2.16	2.16		
82S								2.30										
86S								2.16										
90S																		

TABLE 5-4 (JJA) LONGWAVE RADIATION (100 LY/DAY)

	90E	95E	100E	105E	110E	115E	120E	125E	130E	135E	140E	145E	150E	155E	160E	165E	170E	175E
90N	**********																	
86N	**********																	
82N	**********																	
78N	**********																	
74N	**********																	
70N	**********																	
66N	**********		4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	**********						
62N	4.75	4.75	4.75	4.75	4.90	4.90	4.90	4.90	4.90	4.90	4.75	4.75	4.75	4.75	4.75	**********		
58N	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.75	4.75	4.75	4.75	4.75
54N	4.90	4.90	4.90	4.90	5.04	5.04	5.04	5.04	5.04	5.04	5.04	4.90	4.90	4.90	4.90	4.90	4.90	4.75
50N	4.90	4.90	4.90	4.90	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	4.90	4.90	4.90	4.90	4.90
46N	4.90	4.90	4.90	5.04	5.04	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.04	5.04	5.04	5.04	5.04	5.04
42N	4.75	4.75	4.90	5.04	5.04	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.04	5.04	5.04	5.04	5.04
38N	4.75	4.75	4.90	5.04	5.18	5.18	5.33	5.33	5.33	5.33	5.33	5.33	5.18	5.18	5.18	5.18	5.18	5.18
34N	4.61	4.61	4.75	4.90	5.04	5.18	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33
30N	4.61	4.46	4.61	4.75	4.90	5.18	5.18	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.47
26N	4.46	4.46	4.46	4.61	4.75	5.04	5.18	5.18	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.47	5.47
22N	4.32	4.32	4.32	4.46	4.75	4.90	5.04	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.33	5.33	5.33	5.47
18N	4.18	4.18	4.18	4.32	4.61	4.75	5.04	5.04	5.04	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.33
14N	4.03	4.03	4.18	4.32	4.46	4.75	4.90	5.04	5.04	5.04	5.04	5.04	5.18	5.18	5.18	5.18	5.18	5.18
10N	4.18	4.18	4.18	4.32	4.46	4.75	4.90	4.90	4.90	4.90	4.90	5.04	5.04	5.04	5.04	5.04	5.04	5.18
6N	4.32	4.32	4.32	4.46	4.61	4.75	4.90	4.90	4.90	4.90	4.90	5.04	5.04	5.04	5.04	5.04	5.04	5.04
2N	4.61	4.75	4.46	4.61	4.75	4.75	4.90	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04
2S	4.75	4.90	4.75	4.90	5.04	5.04	5.18	5.18	5.18	5.18	5.18	5.18	5.04	5.04	5.04	5.04	5.04	5.18
6S	4.90	5.04	5.04	5.18	5.18	5.33	5.33	5.33	5.47	5.47	5.33	5.18	5.18	5.18	5.18	5.18	5.18	5.18
10S	5.18	5.18	5.18	5.33	5.33	5.47	5.47	5.47	5.62	5.62	5.62	5.47	5.33	5.18	5.33	5.33	5.33	5.33
14S	5.18	5.18	5.33	5.47	5.47	5.62	5.62	5.62	5.76	5.90	5.76	5.62	5.62	5.47	5.47	5.33	5.33	5.33
18S	5.33	5.33	5.47	5.47	5.47	5.62	5.62	5.62	5.76	5.90	5.76	5.62	5.62	5.47	5.47	5.47	5.33	5.33
22S	5.33	5.33	5.33	5.33	5.33	5.47	5.47	5.47	5.62	5.62	5.62	5.47	5.47	5.47	5.33	5.33	5.33	5.33
26S	5.18	5.18	5.18	5.18	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.18	5.18
30S	5.04	5.04	5.04	5.04	5.04	5.04	5.18	5.18	5.18	5.18	5.18	5.18	5.18	5.04	5.04	5.04	5.04	5.04
34S	4.90	4.90	4.90	4.90	4.90	4.90	4.90	5.04	5.04	5.04	5.04	5.04	4.90	4.90	4.90	4.90	4.90	4.90
38S	4.61	4.61	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75	4.75
42S	4.32	4.32	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46	4.46
46S	4.18	4.18	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.32	4.32
50S	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.18	4.18	4.18	4.18	4.18	4.18	4.18	4.18	4.18
54S	3.74	3.74	3.74	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89	3.89
58S	3.46	3.46	3.46	3.46	3.60	3.60	3.60	3.46	3.60	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74
62S	3.31	3.31	3.31	3.31	3.31	3.31	3.31	3.31	3.31	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46	3.46
66S	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.17	3.17	3.31
70S	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.59	2.74	2.88	2.88	2.88	3.02
74S	2.16	2.16	2.16	2.16	2.16	2.16	2.16	2.16	2.16	2.16	2.30	2.30	2.45	2.45	2.59	2.59	2.74	2.74
78S	**********												2.16	2.30	2.30	2.45	2.59	2.59
82S	**********														2.16	2.30	2.30	**********
86S	**********															2.16	**********	
90S	**********																	

BIBLIOGRAPHY

Brooks, C. E. P., "The Mean Cloudiness Over the Earth," *Mem. Roy. Meteor. Soc.*, 1, No. 10, 127-139, 1927.

Clapp, Ph. F., "Global Cloud Cover for Seasons using TIROS Nephanlysis." *Mon. Wea. Rev.*, 92, 495-507, 1964.

Environmental Technical Applications Center, *Northern Hemisphere Cloud Cover*, Project #6168, Department of the Air Force, Washington, D. C., 1971.

Landsberg, H., "Climatology." *Handbook of Meteorology* (F. A. Berry, E. Bollay and N. R. Beers, Eds.), New York, McGraw-Hill, pp. 927-997, 1945.

Murray, F. W. (ed.), "Relation between Geographical Coordinates and GWC Grid Coordinates", Scientific Service Technical Note No. 1, Headquarters 3rd Weather Wing, Offutt Air Force Base, Omaha, Nebraska, February 1962.

Sadler, J. C., *Average Cloudiness in the Tropics from Satellite Observations*. Honolulu, East-West Center Press, 22 pp. 1969.

Schutz, C., and W. L. Gates, *Global Climatic Data for Surface, 800mb, 400mb: January*, The Rand Corporation, R-915-ARPA, November, 1971.

Schutz, C., and W. L. Gates, *Supplemental Global Climatic Data: January*, The Rand Corporation, R-915/1-ARPA, May 1972(a).

Schutz, C., and W. L. Gates, *Global Climatic Data for Surface, 800mb. 400mb: July*, The Rand Corporation, R-1029-ARPA, November 1972(b).

Schutz, C., and W. L. Gates, *Supplemental Global Climatic Data: January*, The Rand Corporation, R-915/2-ARPA, December 1973(a) in preparation.

Schutz, C., and W. L. Gates, *Global Climatic Data for Surface, 800mb, 400mb: April*, The Rand Corporation, R-1317-ARPA, December 1973(b).

Schutz, C., and W. L. Gates, *Global Climatic Data for Surface, 800mb, 400mb: October*, The Rand Corporation, R-1425-ARPA, 1974, in preparation.

Van Loon, H., J. J. Taljaard, T. Sasamori, J. London, D. V. Hoyt, Karin Labitzke, C. W. Newton, "Meteorology of the Southern Hemisphere," *Meteorological Monographs*, Vol. 13, No. 35, American Meteorological Society, November 1972.

Vonder Haar, T. H., "Natural Variation of the Radiation Budget of the Earth-Atmosphere System as Measured from Satellites," *Proceedings of the Conference on Atmospheric Radiation*, Fort Collins, Colorado, August 7-9, 1972. To appear in *Journal of Applied Meteorology*, 1973.

Vowinckel, E., and H. van Loon, "Das Klima des Antarktischen Ozeans: III Die Verteilung der Klimaelemente und ihr Zusammenhang mit der allgemeinen Zirkulation," *Arch. Meteor. Geophys. Bioklim.*, B8, 75-102, 1957.

Washington, W. M., and L. G. Thiel, *Digitized Global Monthly Mean Ocean Surface Temperatures*, NCAR-TN-54 National Center for Atmospheric Research, Boulder, Colorado, 1970.